National Aeronautics and Space Administration

Agency Financial Report Addendum

- Financial Information
- Other Accompanying Information

FISCAL YEAR 2007

Table of Contents

FINANCIAL INFORMATION

Letter from the Chief Financial Officer

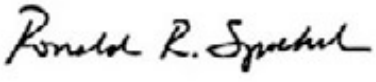
November 15, 2007

It has been clear from the time I joined NASA in September 2007 that every level of the Agency accepts responsibility for reporting performance and financial data accurately, reliably, and with the same vigor that the Agency manifests in its scientific research and exploration missions. Although NASA's financial systems and processes are not yet operating at that same level of performance, progress was made in FY 2007. The final audit reports presenting the independent auditor's opinion on the Agency's financial statements, internal controls, and legal compliance are included in this Addendum to the Agency Financial Report. They note NASA's continued inability to provide sufficient evidential support for the amounts presented in the financial statements and cite two internal control material weaknesses associated with Financial Systems, Analyses, and Oversight and controls over Property, Plant, and Equipment. In FY 2007, NASA implemented a corrective action plan to address internal control weaknesses identified at that time. Among other actions, NASA:

- Upgraded the Core Financial System to resolve certain system configuration issues and to improve technical and functional system operations. A key feature of this upgrade provides better funds distribution control.
- Enhanced monthly monitoring and control procedures to promote solid Center account reconciliations and effective Agency oversight. By improving insight into Center-level financial transactions, these enhancements also expedite error detection and correction.
- Implemented a Change in Accounting Principle reclassifying certain costs previously categorized as Property, Plant & Equipment (PP&E) as research and development expenses to be recognized in the period incurred. This change was consistent with June 2007 technical guidance from the Federal Accounting Standards Advisory Board (FASAB).
- Revised policies and procedures for identifying, tracking, and reporting PP&E costs from project inception through final disposition to enhance control over PP&E cost accounting. These revised policies and procedures, becoming effective in FY 2008, will apply to both new projects and retroactively to certain project PP&E for missions in progress.

Throughout FY 2008, NASA will build on this foundation, moving forward with clearly defined goals, metrics and actions to enhance the Agency's financial management capabilities.

Sound financial management is vital to NASA's success in achieving its mission and requires the combined efforts of the entire Agency. Along with my colleagues in the Office of the Chief Financial Officer and throughout NASA's Mission Directorates, Centers, and project offices, I would reaffirm the Agency's continued commitment to achieving financial management excellence.



Ronald R. Spoehel
Chief Financial Officer

Introduction to the Principal Financial Statements

The Principal Financial Statements have been prepared to report the financial position and results of operations of the National Aeronautics and Space Administration (NASA). The Statements have been prepared from the books and records of NASA in accordance with formats prescribed by the Office of Management and Budget (OMB) in Circular A-136, Financial Reporting Requirements. The statements are in addition to financial reports prepared by the Agency in accordance with OMB and U.S. Department of the Treasury (Treasury) directives to monitor and control the status and use of budgetary resources, which are prepared from the same books and records. The statements should be read with the understanding that they are for a components of the U.S. Government, a sovereign entity. The Agency has no authority to pay liabilities not covered by budgetary resources. Liquidation of such liabilities requires enactment of an appropriation. Comparative data for 2006 are included where available.

NASA's Principal Financial Statements include the following:

The **Consolidated Balance Sheet** provides information on assets, liabilities, and net position similar to balance sheets reported in the private sector. Assets must equal the sum of liabilities and net position.

The **Consolidated Statement of Net Cost** reports the components of the net costs of the Agency's operations for the period. The net cost of operations consists of the gross cost incurred by the Agency less any exchange (i.e., earned) revenue from activities.

The **Consolidated Statement of Changes in Net Position** reports the beginning net position, the transactions that affect net position for the period, and the ending net position.

The **Combined Statement of Budgetary Resources** provides information on how budgetary resources were made available and their status at the end of the year. Information in this statement is reported on the budgetary basis of accounting.

Required Supplementary Stewardship Information provides information on the Agency's Research and Development costs.

Required Supplementary Information contains a Combined Statement of Budgetary Resources and information on Deferred Maintenance.

Financial Statements

National Aeronautics and Space Administration
Consolidated Balance Sheet
As of September 30, 2007 and 2006
(In Millions)

	Unaudited 2007	Restated Unaudited 2006
Assets (Note 2):		
Intragovernmental:		
Fund Balance with Treasury (Note 3)	$ 9,972	$ 9,585
Investments (Note 4)	17	17
Accounts Receivable (Note 5)	141	180
Total Intragovernmental	10,130	9,782
Accounts Receivable, Net (Note 5)	2	5
Inventory and Related Property, Net (Note 6)	3,962	2,330
Property, Plant, and Equipment, Net (Note 7)	20,603	33,261
Total Assets	**$ 34,697**	**$ 45,378**
Stewardship PP&E (Note 8)		
Liabilities (Note 9):		
Intragovernmental:		
Accounts Payable	$ 424	$ 145
Other Liabilities (Note 11)	109	157
Total Intragovernmental	533	302
Accounts Payable	1,036	848
Federal Employee and Veteran Benefits	64	60
Environmental and Disposal Liabilities (Note 10)	963	893
Other Liabilities (Note 11)	1,389	1,210
Total Liabilities	**3,985**	**3,313**
Net Position:		
Unexpended Appropriations	7,470	7,685
Cumulative Results of Operations	23,242	34,380
Total Net Position	**30,712**	**42,065**
Total Liabilities and Net Position	**$ 34,697**	**$ 45,378**

The accompanying notes are an integral part of this statement.

National Aeronautics and Space Administration
Consolidated Statement of Net Cost
For the Fiscal Years Ended September 30, 2007 and 2006
(In Millions)

	Unaudited 2007	Restated Unaudited 2006
Cost by Business Line:		
Aeronautics Research		
Gross Costs	$ 700	$ 1,129
Less: Earned Revenue	106	79
Net Costs	594	1,050
Exploration Systems		
Gross Costs	$ 3,217	$ 2,702
Less: Earned Revenue	29	88
Net Costs	3,188	2,614
Science		
Gross Costs	$ 5,506	$ 6,625
Less: Earned Revenue	352	348
Net Costs	5,154	6,277
Space Operations		
Gross Costs	$ 6,443	$ 8,117
Less: Earned Revenue	301	424
Net Costs	6,142	7,693
Net Cost of Operations	**$ 15,078**	**$ 17,634**

The accompanying notes are an integral part of this statement.

National Aeronautics and Space Administration
Consolidated Statement of Changes in Net Position
For the Fiscal Years Ended September 30, 2007 and 2006
(In Millions)

	Unaudited 2007	Restated Unaudited 2006
Cumulative Results of Operations:		
Beginning Balances	$ 34,380	$ 37,503
Adjustments:		
Changes in Accounting Principles	(12,703)	—
Correction of Errors (Note 17)	—	(644)
Beginning Balances, As Adjusted	21,677	36,859
Budgetary Financing Sources:		
Appropriations Used	16,474	14,958
Nonexchange Revenue	(4)	48
Other Financing Sources:		
Transfers In/Out Without Reimbursement	2	—
Imputed Financing	171	149
Total Financing Sources	16,643	15,155
Net Cost of Operations	(15,078)	(17,634)
Net Change	1,565	(2,479)
Cumulative Results of Operations	**23,242**	**34,380**
Unexpended Appropriations:		
Beginning Balance	7,685	5,318
Adjustments:		
Correction of Errors (Note 17)	—	704
Beginning Balances, As Adjusted	7,685	6,022
Budgetary Financing Sources:		
Appropriations Received	16,284	16,842
Appropriations Transferred In/Out	1	26
Other Adjustments	(26)	(247)
Appropriations Used	(16,474)	(14,958)
Total Budgetary Financing Sources	(215)	1,663
Unexpended Appropriations	**7,470**	**7,685**
Net Position	**$ 30,712**	**$ 42,065**

The accompanying notes are an integral part of this statement.

National Aeronautics and Space Administration
Combined Statement of Budgetary Resources
For the Fiscal Years Ended September 30, 2007 and 2006
(In Millions)

	Unaudited 2007	Unaudited 2006
Budgetary Resources:		
Unobligated Balance, Brought Forward, October 1 (Note 17):	$ 2,298	$ 2,241
Recoveries of Prior Year Unpaid Obligations	460	368
Budgetary Authority		
Appropriation	16,285	16,843
Spending Authority from Offsetting Collections:		
Earned		
Collected	865	989
Change in Receivables from Federal Sources	(42)	41
Change in Unfilled Customer Orders		
Advance Received	(50)	57
Without Advance from Federal Sources	455	(208)
Subtotal	17,513	17,722
Nonexpenditure Transfers, Net, Actual	1	26
Permanently Not Available		
Cancellations of Expired and No-year Accounts	(26)	(37)
Enacted Reductions	—	(210)
Total Budgetary Resources	**$ 20,246**	**$ 20,110**
Status of Budgetary Resources:		
Obligations Incurred (Note 14):		
Direct	$ 16,706	$ 16,768
Reimbursable	946	1,005
Subtotal	17,652	17,773
Unobligated Balance:		
Apportioned	2,413	2,143
Exempt from Apportionment	—	4
Subtotal	2,413	2,147
Unobligated Balance Not Available	181	190
Total Status of Budgetary Resources	**$ 20,246**	**$ 20,110**

The accompanying notes are an integral part of this statement.

National Aeronautics and Space Administration
Combined Statement of Budgetary Resources (Continued)
For the Fiscal Years Ended September 30, 2007 and 2006
(In Millions)

	Unaudited 2007	Unaudited 2006
Change in Obligated Balance:		
Obligated Balances, Net		
Unpaid Obligations Brought Forward, October 1	$ 7,671	$ 6,525
Less: Uncollected Customer Payments from Federal Sources, Brought Forward, October 1	385	552
Total Unpaid Obligated Balances, Net	**7,286**	**5,973**
Obligations Incurred	17,652	17,773
Less: Gross Outlays	16,687	16,259
Less: Recoveries of Prior Year Unpaid Obligations, Actual	460	368
Change in Uncollected Customer Payments from Federal Sources	(413)	167
Subtotal	7,378	7,286
Obligated Balance, Net, End of Period		
Unpaid Obligations	$ 8,176	$ 7,671
Less: Uncollected Customer Payments from Federal Sources	798	385
Total, Unpaid Obligated Balance, Net, End of Period	**$ 7,378**	**$ 7,286**
Net Outlays:		
Net Outlays:		
Gross Outlays	$ 16,687	$ 16,259
Less: Offsetting Collections	815	1,045
Less: Distributed Offsetting Receipts	1	8
Net Outlays	**$ 15,871**	**$ 15,206**

The accompanying notes are an integral part of this statement.

Notes to Financial Statements, Required Supplementary Stewardship Information, and Required Supplementary Information

National Aeronautics and Space Administration
Notes to Principal Financial Statements (Presented in Millions)
(Fiscal Years 2007 and 2006 Are Unaudited)

NOTE 1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Reporting Entity

The National Aeronautics and Space Administration (NASA) is an independent Agency established by Congress on October 1, 1958 by the National Aeronautics and Space Act of 1958. NASA was incorporated from the Agency's predecessor organization, the National Advisory Committee for Aeronautics, which provided technical advice to the United States aviation industry and performed aeronautics research. Today, NASA serves as the fulcrum for initiatives by the United States in civil space and aviation.

NASA is organized into four Business Lines which focus on the following objectives:

- Aeronautics Research: conducting research which will significantly enhance aircraft performance, environmental compatibility, and safety, and will enhance the capacity, flexibility, and safety of the future air transportation system;
- Exploration Systems: creating new capabilities, supporting technologies and foundational research for affordable, sustainable human and robotic exploration;
- Space Operations: providing critical enabling technologies for much of the rest of NASA through the Space Shuttle, the International Space Station, and flight support; and
- Science: exploring the Earth, moon, Mars, and beyond; charting the best route of discovery, and reaping the benefits of Earth and space exploration for society.

In addition, NASA has nine Business Line (Mission) Support Offices, including the Office of the Chief Financial Officer and Institutions & Management. The Agency's structure includes a Strategic Management Council, an Operations Management Council and a Program Management Council to integrate NASA's strategic, tactical and operational decisions, and a number of other committees supporting NASA's focus and direction. The organizational structure is designed to streamline and position the Agency to better implement the Vision for Space Exploration.

The nine NASA Centers, NASA Headquarters, and the Jet Propulsion Laboratory carry out the activities of the Mission Directorates. The Jet Propulsion Laboratory is a federally funded Research and Development Center owned by NASA but managed by an independent contractor.

NASA Shared Services Center opened March 1, 2006 on the grounds of Stennis Space Center. The NSSC is a public/private partnership between NASA and Computer Sciences Corporation service providers. The mixed staff of civil service and contractor personnel, performs a variety of consolidated transactional and administrative activities once carried out at each NASA center and Headquarters. These functions consisted of responsibilities in the following areas: Financial Management (FM), Human Resources (HR), Information Technology (IT) and Procurement.

The accompanying financial statements of NASA include the accounts of all funds which have been established and maintained to account for the resources under the control of NASA management.

NOTE 1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

Basis of Accounting and Presentation

These consolidated financial statements are prepared in accordance with generally accepted accounting principles (GAAP) in the United States of America as promulgated by the Federal Accounting Standards Advisory Board (FASAB) and the Office of Management and Budget (OMB) Circular No. A-136, *Financial Reporting Requirements*, revised June 29, 2007. FASAB is recognized by the American Institute of Certified Public Accountants (AICPA) as the official accounting standards-setting body for United States government entities. The statements include the financial position, net cost of operations, changes in net position, and budgetary resources of NASA, as required by the Chief Financial Officers Act of 1990 and the Government Management Reform Act of 1994.

The financial statements should be read with the realization they are a component of the U.S. government, a sovereign entity. One implication of this is that liabilities cannot be liquidated without legislation providing resources and legal authority to do so. The accounting structure of federal agencies is designed to reflect both accrual and budgetary accounting transactions. Under the accrual method of accounting, revenues are recognized when earned and expenses are recognized when a liability is incurred, without regard to receipt or payment of cash. Budgetary accounting facilitates compliance with legal constraints and controls over the use of federal funds.

Change in Accounting Principle

In FY 2007 NASA made a change in its accounting policy for Property, Plant and Equipment (PP&E) to reclassify costs previously categorized as General Property, Plant, and Equipment (PP&E) to Research and Development (R&D) expenses. After a detailed review of all items previously categorized as General PP&E, NASA concluded certain projects are more properly classified as R&D, and should not be classified, in their entirety, as capital assets under the classification of General PP&E. Accordingly, NASA applied the provisions of Statement of Financial Accounting Standards (SFAS) No. 2, *Accounting for Research and Development Costs* to account for its R&D projects. NASA believes the recognition and measurement requirements of SFAS No. 2 result in reporting financial information that is more relevant and timely.

The cumulative effect of this change in accounting principle is a decrease in the PP&E balance by $12.7 billion for those costs not meeting the criteria of General PP&E and a corresponding decrease to the beginning balance of Cumulative Results of Operations on the Statement of Changes in Net Position.

In conjunction with the change in the application of accounting principle, NASA has re-titled the categories used to report PP&E. The re-titled categories are Space Exploration PP&E and General PP&E, previously classified as Government and Contractor held PP&E.

Budgets and Budgetary Accounting

NASA follows standard Federal budgetary accounting policies and practices in accordance with OMB Circular No. A-11, *Preparation, Submission and Execution of the Budget*. Budgetary accounting facilitates compliance with legal constraints and controls over the use of Federal funds. Congress funds NASA using three appropriations: Science, Aeronautics and Exploration; Exploration Capabilities; and Office of Inspector General.

The Science, Aeronautics and Exploration appropriation supports the following Business Lines: Science, Exploration Systems, and Aeronautics Research. The Exploration Capabilities appropriation supports the Space Operations Business Line which includes the Space Station, Space Shuttle, and Space and Flight Support. The Office of Inspector General appropriation funds the audit and investigation activities of the Agency.

NOTE 1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

Reimbursements to NASA are used to fund agreements between the Agency and other federal entities or the public. As part of its reimbursable program, NASA launches devices into space and provides tracking and data relay services for the U.S. Department of Defense and the Department of Commerce (National Oceanic and Atmosphere Administration).

Research and Development and Similar Costs

NASA makes substantial Research and Development (R&D) investments for the benefit of the United States. NASA's R&D programs include activities to extend our knowledge of Earth, its space environment, and the universe; and to invest in new aeronautics and advanced space transportation technologies supporting the development and application of technologies critical to the economic, scientific, and technical competitiveness of the United States. Accordingly, NASA applies SFAS No. 2 to its R&D projects. NASA believes the recognition and measurement requirements of SFAS No. 2 result in reporting more relevant and timely financial information.

Use of Estimates

The preparation of financial statements requires management to make estimates and assumptions affecting the reported amounts of assets and liabilities as of the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from these estimates.

NASA requires major contractors to provide an estimate of their anticipated billing prior to their sending the actual invoice to the agency. In addition, NASA requires the contractors to provide an estimate for the next month's anticipated work. When NASA receives these estimates they are compared to the contract under which the work is performed. If the estimate exceeds a specified funding line item the program manager and the procurement official, as necessary, review the estimate prior to posting in the general ledger as an estimated liability. If the review is not completed within the timeframe for quarterly or yearly reporting, the Agency uses the estimates of activity through the current period to establish an estimated liability. However, in this instance the agency fully recognizes that "no agency has the authority to pay liabilities not covered by budgetary resources." Liability to the contractor is not established by receipt of these estimates, but only when accepted by the Agency.

Reclassifications

Certain prior year amounts have been reclassified to conform to current year presentation in the disclosures.

Fund Balance with Treasury

Treasury processes cash receipts and disbursements for NASA. Fund Balance with Treasury includes general funds, trust funds, deposit funds, and budget clearing accounts.

Investments in U.S. Government Securities

Investments include the following Intragovernmental non-marketable securities:

(1) National Aeronautics and Space Administration Endeavor Teacher Fellowship Trust Fund established from public donations in tribute to the crew of the Space Shuttle Challenger.

(2) Science, Space and Technology Education (Challenger) Trust Fund established for programs to improve science and technology education.

NOTE 1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

The Endeavor Trust Fund balance is invested in short-term bills, while the Challenger Trust Fund balance is invested in short-term bills and long-term bonds. Public Law 100-404 requires a quarterly payment of $250,000 is sent to the Challenger Center from interest earned on the Challenger investments. In order to meet the requirement of providing funds to the Challenger Center, NASA invests the bi-annual interest earned in short-term bills maturing to provide $250,000 at the end of every quarter. Any interest received and not needed for the quarterly payment to the Challenger Center is invested in a bond maturing on February 15, 2019.

Public Law 102-195 requires the interest earned from the Endeavor investments be used to create the Endeavor Teacher Fellowship Program; however, there has been no funds obligated for this purpose to date.

Accounts Receivable

Most receivables are for reimbursement of research and development costs related to satellites and launch services. The allowance for uncollectible accounts is based upon evaluation of public accounts receivable, considering the probability of failure to collect based upon current status, financial and other relevant characteristics of debtors, and the relationship with the debtor. Under a cross-servicing agreement with the Department of Treasury, public accounts receivable over 180 days delinquent are referred to Treasury for collection. The receivable remains on NASA's books until Treasury determines the receivable is uncollectible or the receivable is internally written off and closed out.

Inventory and Related Property

Inventory held by Centers and contractors repetitively procured, stored and issued on the basis of demand are considered Operating Materials and Supplies, a category of Inventory and Related Property. Certain NASA contractors' inventory management systems do not distinguish between items to be properly classified as materials and those to be properly classified as depreciable property. NASA reclassifies as property, all materials valued at $100,000 or greater, in support of large-scale assets such as the Space Shuttle and the International Space Station.

Property, Plant and Equipment

These financial statements report depreciation expense using the straight-line method using the mid-year convention when assets are placed into service for all categories of PP&E. Property with a unit cost of $100,000 or more and a useful life of 2 years or more and an alternative future use is capitalized. Capitalized costs include all costs incurred by NASA to bring the property to a form and location suitable for its intended use. Under provisions of the Federal Acquisition Regulation (FAR), contractors are responsible for control over and accountability for Government-owned property in their possession.

Capitalized costs for internally developed software include the full costs (direct and indirect) incurred during the software development stage only. For purchased software, capitalized costs include amounts paid to vendors for the software and material internal costs incurred by the Agency to implement and make the software ready for use through acceptance testing. When NASA purchases software as part of a package of products and services (for example: training, maintenance, data conversion, reengineering, site licenses, and rights to future upgrades and enhancements), capitalized and non-capitalized costs of the package are allocated among individual elements on the basis of a reasonable estimate of their relative fair market values. Costs not susceptible to allocation between maintenance and relatively minor enhancements are expensed.

NASA capitalizes costs for internal use software when the total projected cost is $1,000,000 or more and the expected useful life of the software is 5 years or more.

NOTE 1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

NASA began depreciating the International Space Station in FY 2001 when manned by the first permanent crew. Only the Station's major elements in space are depreciated; any on-ground elements are reported as Assets Under Construction (AUC) until launched and incorporated into the existing Station structure.

Liabilities Covered by Budgetary Resources

Liabilities covered by budgetary resources are liabilities covered by realized budgetary resources as of the balance sheet date. Realized budgetary resources include new budget authority, unobligated balances of budgetary resources at the beginning of the year, and spending authority from offsetting collections. Examples include accounts payable and salaries. Accounts Payable includes amounts recorded for the receipt of goods or services received.

Liabilities and Contingencies Not Covered by Budgetary Resources

Generally liabilities not covered by budgetary resources are liabilities for which Congressional action is needed before budgetary resources can be provided. Liabilities not covered by budgetary resources include certain environmental matters, legal claims, pensions and other retirement benefits (ORB), workers' compensation, annual leave, and closed appropriations.

Federal Employee and Veterans' Benefits

A liability was recorded for workers' compensation claims related to the Federal Employees' Compensation Act (FECA), administered by U.S. Department of Labor. The FECA provides income and medical cost protection to covered Federal civilian employees injured on the job, employees who have incurred a work-related occupational disease, and beneficiaries of employees whose death is attributable to a job-related injury or occupational disease. The FECA Program initially pays valid claims and subsequently seeks reimbursement from the Federal agencies employing the claimants.

The FECA liability includes the actuarial liability for estimated future costs of death benefits, workers' compensation, and medical and miscellaneous costs for approved compensation cases. The present value of these estimates at year-end was calculated by the Department of Labor using a discount rate of 4.93% in FY 2007 and 5.17% in FY 2006. This liability does include the estimated future costs for claims incurred but not reported or approved as of the end of each year.

Personnel Compensation and Benefits

Annual Sick and Other Leave

Annual leave is accrued as it is earned; the accrual is reduced as leave is taken. Each year, the balance in the accrued annual leave account is adjusted to reflect current pay rates. To the extent current or prior year appropriations are not available to fund annual leave earned but not taken, funding will be obtained from future financing sources. Sick leave and other types of non-vested leave are expensed as taken.

Retirement Benefits

Agency employees participate in the Civil Service Retirement System (CSRS), a defined benefit plan, or the Federal Employees Retirement System (FERS), a defined benefit and contribution plan. For CSRS employees, NASA makes contributions of 7.0 percent of pay. For FERS employees, NASA makes contributions of 11.2 percent to the defined benefit plan, contributes 1 percent of pay to a retirement saving plan (contribution plan), and matches employee contributions up to an additional 4 percent of pay. For FERS employees, NASA also contributes to employer's matching share for Social Security taxes.

NOTE 1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

Insurance Benefits

Statement of Federal Financial Accounting Standards No. 5, "Accounting for Liabilities of the Federal Government," require Government agencies to report the full cost of employee health benefits (FEHB), and the Federal Employees Group Life Insurance (FEGLI) Programs. NASA uses the applicable cost factors and imputed financing sources from the Office of Personnel and Management.

Environmental and Disposal Liabilities

The Agency records a liability for environmental and disposal clean-up costs from NASA operations which resulted in contamination from waste disposal methods, leaks, spills, and other past activity that created a public health or environmental risk. These liabilities are assessed by the engineers to be probable, reasonably possible or remote. Mid and final year determinations are made of the status of these unfunded liabilities.

While we recognize that there may be costs associated with environmental cleanup per SFFAS No. 6, we are uncertain as to the total amount, and consequently have no basis for estimating these costs, which may be a potential departure from GAAP.

NOTE 2. NON-ENTITY ASSETS

Non-Entity Assets are those assets held by NASA, but are not available for use by NASA. For FY 2007, the amount of non-entity assets was below the displayable threshold of a million dollars.

(In Millions)	2007	Restated 2006
Intragovernmental:		
Fund Balance with Treasury	$ —	$ 1
Accounts Receivable	—	2
Total Intragovernmental	—	3
Total Non-Entity Assets	**—**	**3**
Total Entity Assets	**34,697**	**45,375**
Total Assets	**$ 34,697**	**$ 45,378**

NOTE 3. FUND BALANCE WITH TREASURY

Fund Balance with Treasury represents the aggregate amount of the Agency's funds held on deposit with the U.S. Treasury that are available to pay liabilities. The fund types include trust, general and revolving funds and other funds.

Trust Funds include balances in Endeavor Teacher Fellowship Trust Fund, National Space Grant Program, Science, Space and Technology Education Trust Fund, and Gifts and Donations.

General Funds primarily consists of appropriated funds for the agency.

Other Fund types include Working Capital Fund, Fines, Penalties, and Forfeitures, General Fund Proprietary Interest, Collections of Receivables from Canceled Appropriations, General Fund Proprietary Receipts, Budget Clearing and Suspense, Unavailable Check Cancellation, Undistributed Intragovernmental Payment, State and Local Taxes, Other Payroll, and US Employee Allotment Account, Savings Bonds.

(In Millions)	2007	2006
Fund Balances:		
Trust Funds	$ 4	$ 4
General Funds	9,930	9,542
Other Fund Types	38	39
Total	**$ 9,972**	**$ 9,585**

The status of Fund Balance with Treasury represents the total fund balance as reflected in the general ledger for unobligated and obligated balances. Unobligated Balances—Available represent the amount remaining in appropriation accounts available for obligation in future fiscal years. Unobligated Balances—Unavailable represent the amount remaining in appropriation accounts only used for adjustments to previously recorded obligations. Obligated Balances—Not Yet Disbursed represent the cumulative amount of obligations incurred, including accounts payable and advances from reimbursable customers, for which outlays have not been made.

(In Millions)	2007	2006
Status of Fund Balance with Treasury:		
Unobligated Balance		
Available	$ 2,413	$ 2,147
Unavailable	181	190
Obligated Balance Not Yet Disbursed	7,378	7,247
Clearing and Deposit Accounts	—	1
Total	**$ 9,972**	**$ 9,585**

NOTE 4. INVESTMENTS

Intragovernmental Securities are marketable federal securities bought and sold on the open market. The Bureau of the Public Debt issues non-marketable par value Treasury securities. The trust fund and cash balances are invested in Treasury securities, which are purchased and redeemed at par value exclusively through Treasury's Federal Investment Branch. The effective-interest method was utilized to amortize discounts and premiums.

	2007				
(In Millions)	**Cost**	**Amortization Method**	**Amortized (Premium) Discount**	**Investments, Net**	**Market Value Disclosure**
Intragovernmental Securities:					
Non-Marketable:		Effective-interest			
Par Value	$ 18	4.228–9.781%	$ (1)	$ 17	$ 17
Total	**$ 18**		**$ (1)**	**$ 17**	**$ 17**

	Restated 2006				
(In Millions)	**Cost**	**Amortization Method**	**Amortized (Premium) Discount**	**Investments, Net**	**Market Value Disclosure**
Intragovernmental Securities:					
Non-Marketable:		Effective-interest			
Par Value	$ 18	4.31–8.875%	$ (1)	$ 17	$ 17
Total	**$ 18**		**$ (1)**	**$ 17**	**$ 17**

NOTE 5. ACCOUNTS RECEIVABLE, NET

The Accounts Receivable balance represents reimbursements from other governmental entities for satellites and launch services. An evaluation of public accounts receivable is made to determine the amount uncollectible for the allowance for uncollectible accounts is based upon evaluation of public accounts receivable, considering the probability of failure to collect based upon current status, financial and other relevant characteristics of debtors, and the relationship with the debtor.

	2007		
(In Millions)	Accounts Receivable	Allowance for Uncollectible Accounts	Net Amount Due
Intragovernmental	$ 141	$ —	$ 141
Public	2	—	2
Total	**$ 143**	**$ —**	**$ 143**

	2006		
(In Millions)	Accounts Receivable	Allowance for Uncollectible Accounts	Net Amount Due
Intragovernmental	$ 180	$ —	$ 180
Public	6	(1)	5
Total	**$ 186**	**$ (1)**	**$ 185**

NOTE 6. INVENTORY AND RELATED PROPERTY, NET

Operating Materials and Supplies, Held for Use are tangible personal property held by NASA and its contractors to be used for fabricating and maintaining NASA assets and used in normal operations. Operating Materials and Supplies, Held in Reserve for Future Use are tangible personal property held by NASA for emergencies for which there is no normal recurring demand but must be immediately available to preclude delay, which might result in loss, damage or destruction of Government property, danger to life or welfare of personnel, or substantial financial loss to the Government due to an interruption of operations.

All materials are valued using historical costs, or other valuation methods that approximate historical cost. Excess operating materials and supplies are materials exceeding the demand expected in the normal course of operations, and do not meet management's criteria to be held in reserve for future use. Obsolete operating material and supplies are materials no longer needed due to changes in technology, laws, customs, or operations. Unserviceable operating materials and supplies are materials damaged beyond economic repair.

(In Millions)	2007	2006
Operating Materials and Supplies		
Items Held for Use	$ 4,374	$ 2,687
Items Held in Reserve for Future Use	3	3
Excess, Obsolete, and Unserviceable	(415)	(360)
Total	**$ 3,962**	**$ 2,330**

NOTE 7. PROPERTY, PLANT, AND EQUIPMENT, NET

NASA has International Space Station bartering agreements with international agencies including the European Space Agency and the National Space Agency of Japan. NASA barters with these space agencies to obtain International Space Station hardware elements in exchange for providing goods and services such as Space Shuttle transportation and a share of NASA's International Space Station utilization rights. The intergovernmental agreements state that the parties will seek to minimize the exchange of funds in the cooperative program, including the use of barters to provide goods and services. As of September 30, 2007, NASA has received some assets from these parties in exchange for future services. The fair value is indeterminable; therefore no value was ascribed to these transactions in accordance with Accounting Principles Board (APB) Opinion No. 29, *Accounting for Nonmonetary Transactions*.

In FY 2007 NASA made a change in its accounting policy for Property, Plant and Equipment (PP&E) to reclassify costs previously categorized as General Property, Plant and Equipment (PP&E) as Research and Development (R&D) Expenses. See Footnote 1 for further discussion on this change.

NOTE 7. PROPERTY, PLANT, AND EQUIPMENT, NET (CONTINUED)

			2007		
(In Millions)	Depreciation Method	Useful Life	Cost	Accumulated Depreciation	Book Value
Space Exploration PP&E					
International Space Station	Straight-line	5–20 years	$ 21,484	$ (8,107)	$ 13,377
Space Shuttle	Straight-line	5–20 years	8,222	(7,102)	1,120
Shuttle/Station Equipment	Straight-line	5–20 years	601	(523)	78
Other Equipment	Straight-line	5–20 years	1,233	(976)	257
Work-in-Process					
Work-in-Process—Equipment		N/A	43	—	43
Assets Under Construction		N/A	3,572	—	3,572
Total			**35,155**	**(16,708)**	**18,447**
General PP&E					
Land			122	—	122
Structures, Facilities and Leasehold Improvements	Straight-line	15–40 years	6,679	(5,063)	1,616
Institutional Equipment	Straight-line	5–20 years	246	(146)	100
Work-in-Process					
Construction in Process		N/A	212	—	212
Internal Use Software and Development	Straight-line	5 years	193	(87)	106
Total			**7,452**	**(5,296)**	**2,156**
Total Property, Plant, and Equipment			**$ 42,607**	**$ (22,004)**	**$ 20,603**

			Restated 2006		
(In Millions)	Depreciation Method	Useful Life	Cost	Accumulated Depreciation	Book Value
Government-owned/Government-held					
Land			$ 114	$ —	$ 114
Structures, Facilities and Leasehold Improvements	Straight-line	15–40 years	5,637	(4,154)	1,483
Theme Assets	Straight-line	2–20 years	43,593	(29,142)	14,451
Equipment	Straight-line	5–20 years	2,267	(1,644)	623
Internal Use Software and Development	Straight-line	5 years	139	(49)	90
Work-in-Process					
Work-in-Process			204	—	204
Work-in-Process–Equipment			26	—	26
Assets Under Construction			8,198	—	8,198
Total			**60,178**	**(34,989)**	**25,189**
Government-owned/Contractor-held					
Land			8	—	8
Structures, Facilities and Leasehold Improvements	Straight-line	15–40 years	859	(704)	155
Equipment	Straight-line	5–20 years	12,264	(9,155)	3,109
Work-in-Process			4,800	—	4,800
Total			**17,931**	**(9,859)**	**8,072**
Total Property, Plant, and Equipment			**$ 78,109**	**$ (44,848)**	**$ 33,261**

NOTE 8. STEWARDSHIP PP&E

Federal agencies are required to classify and report heritage assets, in accordance with the requirements of Statement of Federal Financial Accounting Standards No. 29 (SFFAS No. 29), *Heritage Assets and Stewardship Land*.

Stewardship PP&E consists of items whose physical properties resemble those of general PP&E, but their nature differs in that their values may be indeterminable or have little meaning, or that allocating the cost of such assets (depreciation) to accounting periods is meaningless. The only type of stewardship PP&E owned by NASA are heritage assets.

Heritage Assets are property, plant, and equipment which possess one or more of the following characteristics: historical or natural significance; cultural, educational, or aesthetic value; or significant architectural characteristics. NASA's heritage assets include buildings and structures designated as National Historic Landmarks and air and spacecraft and related components on display to enhance public understanding of NASA programs

Since the cost of heritage assets is usually not determinable, NASA does not value them or establish minimum value thresholds for designation of property, plant, or equipment as heritage assets. Additionally, the useful lives of heritage assets are not reasonably estimable for depreciation purposes. Since the most relevant information about heritage assets is their existence, they are qualified in terms of physical units, as follows:

	2006	Additions	Withdrawals	2007
Buildings and Structures	32	—	14	18
Air and Space Displays and Artifacts	496	35	5	526
Art and Miscellaneous Items	1,024	3	9	1,018
Total Heritage Assets	**1,552**	**38**	**28**	**1,562**

	2005	Additions	Withdrawals	2006
Buildings and Structures	37	—	5	32
Air and Space Displays and Artifacts	492	4	—	496
Art and Miscellaneous Items	1,021	3	—	1,024
Total Heritage Assets	**1,550**	**7**	**5**	**1,552**

Heritage Assets were generally acquired through construction by NASA or its contractors, and are expected to remain in this category, except where there is legal authority for transfer or sale. Heritage assets are generally in fair condition, suitable only for display. Heritage assets are withdrawn when they become inactive or multi-use heritage assets.

Many of the buildings and structures are designated as National Historic Landmarks. Numerous air and spacecraft and related components are on display at various locations to enhance public understanding of NASA programs. NASA eliminated their cost from its property records when they were designated as heritage assets. A portion of the amount reported for deferred maintenance is for heritage assets.

For more than 30 years, the NASA Art Program has documented America's major accomplishments in aeronautics and space. During that time, artists have generously contributed their time and talent to record their impressions of the U.S. Aerospace Program in paintings, drawings, and other media. Not only do these art works provide a historic record of NASA projects, they give the public a new and fuller understanding of advancements in aerospace. Artists give a special view of NASA through the back door. Some have witnessed astronauts in training or scientists at

NOTE 8. STEWARDSHIP PP&E (CONTINUED)

work. The art collection, as a whole, depicts a wide range of subjects, from Space Shuttle launches to aeronautics research, Hubble Space Telescope, and even virtual reality.

Artists commissioned by NASA receive a small honorarium in exchange for donating a minimum of one piece to the NASA archive. In addition, more works have been donated to the National Air and Space Museum.

In accordance with SFFAS No. 29 the cost of acquisition, improvement, reconstruction, or renovation of heritage assets is expensed in the period incurred.

In accordance with SFFAS No. 29, heritage assets that are used in day-to-day government operations are considered "multi-use" heritage assets that are not used for heritage purposes. Such assets are accounted for as general property, plant, and equipment and are capitalized and depreciated in the same manner as other general property, plant, and equipment. For both FY 2007 and FY 2006, NASA had 45 buildings and structures that are considered to be multi-use heritage assets. The values of these assets are included in the property, plant, and equipment values shown in the Financial Statements.

NOTE 9. LIABILITIES NOT COVERED BY BUDGETARY RESOURCES

Liabilities not covered by budgetary resources are liabilities for which Congressional action is needed before budgetary resources can be provided. They include certain environmental matters (Note 10), legal claims, pensions and other retirement benefits, workers' compensation, annual leave, and closed appropriations.

NASA has recorded Accounts Payable related to closed appropriations for which there are contractual commitments to pay. These payables will be funded from appropriations available for obligation at the time a bill is processed, in accordance with Public Law 101-510.

(In Millions)	2007	2006
Intragovernmental Liabilities:		
Other Liabilities		
Workers' Compensation	$ 16	$ 15
Accounts Payable for Closed Appropriations	7	6
Total Intragovernmental	23	21
Public Liabilities:		
Accounts Payable		
Accounts Payable for Closed Appropriations	80	104
Federal Employee and Veterans Benefits		
Actuarial FECA Liability	64	60
Environmental and Disposal Liabilities	963	893
Other Liabilities		
Unfunded Annual Leave	182	179
Contingent Liabilities	—	4
Total Liabilities Not Covered by Budgetary Resources	**1,312**	**1,261**
Total Liabilities Covered by Budgetary Resources	**2,673**	**2,052**
Total Liabilities	**$ 3,985**	**$ 3,313**

NOTE 10. ENVIRONMENTAL AND DISPOSAL LIABILITIES

Environmental and Disposal Liabilities represent cleanup costs from NASA operations that resulted in contamination from waste disposal methods, leaks, spills, and other past activity that created a public health or environmental risk. Federal, State, and local statutes and regulations require environmental cleanup. Some of these statutes are the Comprehensive Environmental Response, Compensation, and Liability Act; the Resource Conservation and Recovery Act; the Nuclear Waste Policy Act of 1982; and State and local laws.

Where current site-specific engineering estimates for cleanup are not available, NASA employs commercially available parametric modeling software to estimate the total cost of cleaning up known contamination at these sites for current and future years. Several NASA centers have potential remediation issues that are not at this time measurable or estimable.

NASA recorded an unfunded liability to reflect the estimated total cost of environmental cleanup. This estimate could change in the future due to identification of additional contamination, inflation, deflation, and a change in technology or applicable laws and regulations as well as through ordinary liquidation of these liabilities as the cleanup program continues into the future. The estimate changed from FY 2006 to FY 2007 primarily due to updated information being available on the extent of contamination and remediation efforts that would be required. The estimate represents an amount that NASA expects to spend to remediate currently known contamination, subject to the availability of appropriated funds. Other responsible parties that may be required to contribute to the remediation funding could share this liability.

While we recognize there may be environmental cleanup costs associated with property, plant and equipment, we are uncertain as to an amount, and consequently have no basis for an estimate.

In addition to the specific remediation efforts contemplated in the above estimates, NASA has a number of other potential remediation sites. For some sites, remediation costs ranging from $16 million to $50 million have been estimated as reasonably possible. Such costs could be significant at other sites, management is not currently able to estimate the range of loss, or assess the likelihood that remediation efforts would be required. In FY 2006, remediation costs at certain sites, ranging from $7 million to $65 million, was estimated as reasonably possible.

NOTE 11. OTHER LIABILITIES

2007

(In Millions)	Current	Non Current	Total
Intragovernmental Liabilities			
Advances from Others	$ 86	$ —	$ 86
Workers' Compensation	7	9	16
Employer Contributions and Payroll Taxes	11	—	11
Liability for Deposit and Clearing Funds	(6)	—	(6)
Other Accrued Liabilities	2	—	2
Total Intragovernmental	**100**	**9**	**109**
Unfunded Annual Leave	—	182	182
Accrued Funded Payroll	72	—	72
Advances from Others	67	—	67
Employer Contributions and Payroll Taxes	17	—	17
Liability for Deposit and Clearing Funds	6	—	6
Contract Holdbacks	1	—	1
Contingent Liabilities	—	—	—
Other Accrued Liabilities	1,044	—	1,044
Total with the Public	**1,207**	**182**	**1,389**
Total Other Liabilities	**$ 1,307**	**$ 191**	**$ 1,498**

Restated 2006

(In Millions)	Current	Non Current	Total
Intragovernmental Liabilities			
Advances from Others	$ 114	$ —	$ 114
Workers' Compensation	15	—	15
Employer Contributions and Payroll Taxes	11	—	11
Liability for Deposit and Clearing Funds	14	—	14
Custodial Liability	8	—	8
Other Liabilities	(5)	—	(5)
Total Intragovernmental	**157**	**—**	**157**
Unfunded Annual Leave	—	179	179
Accrued Funded Payroll	70	—	70
Advances from Others	87	—	87
Employer Contributions and Payroll Taxes	17	—	17
Liability for Deposit and Clearing Funds	(14)	—	(14)
Contract Holdbacks	1	—	1
Custodial Liability	(17)	—	(17)
Contingent Liabilities	—	4	4
Other Accrued Liabilities	878	—	878
Other Liabilities	5	—	5
Total with the Public	**1,027**	**183**	**1,210**
Total Other Liabilities	**$ 1,184**	**$ 183**	**$ 1,367**

NOTE 12. CONTINGENT LIABILITIES

NASA is a party in various administrative proceedings, court actions (including tort suits), and claims against it. No balances have been recorded in the financial statements for contingencies related to proceedings, actions, and claims because there are no actions where management and legal counsel believe it is probable the outcome will result in a loss to the Agency. There were certain cases reviewed by legal counsel where the probable future loss could not be reasonably estimated and as such no liability has been recorded in connection with these cases.

In the opinion of management and legal counsel, the ultimate resolution of these proceedings, actions, and claims will not materially affect the financial position, net cost, changes in net position, or budgetary resources of NASA. Liabilities have been recorded for September 30, 2007 and September 30, 2006 in the amount of $0 million and $4 million respectively.

NASA has certain cases that the likelihood of loss is reasonably possible with a range of loss estimate from $0 to $50 million.

NOTE 13. INTRAGOVERNMENTAL COST AND EXCHANGE REVENUE

Intragovernmental costs and revenue are exchange transactions made between NASA and another Federal Government reporting entity. Costs and revenue with the Public result from transactions between NASA and a non-Federal entity.

(In Millions)	2007	Restated 2006
Aeronautics Research		
Intragovernmental Costs	$ 157	$ 81
Public Cost	543	1,048
Total Aeronautics Research Costs	700	1,129
Intragovernmental Earned Revenue	70	63
Public Earned Revenue	36	16
Total Aeronautics Research Earned Revenue	106	79
Total Aeronautics Research Net Cost	**594**	**1,050**
Exploration Systems		
Intragovernmental Costs	295	214
Public Cost	2,922	2,488
Total Exploration Systems Costs	3,217	2,702
Intragovernmental Earned Revenue	18	89
Public Earned Revenue	11	(1)
Total Exploration Systems Earned Revenue	29	88
Total Exploration Systems Net Cost	**3,188**	**2,614**
Science		
Intragovernmental Costs	423	536
Public Cost	5,083	6,089
Total Science Costs	5,506	6,625
Intragovernmental Earned Revenue	338	350
Public Earned Revenue	14	(2)
Total Science Earned Revenue	352	348
Total Science Net Cost	**5,154**	**6,277**
Space Operations		
Intragovernmental Costs	549	482
Public Cost	5,894	7,635
Total Space Operations Costs	6,443	8,117
Intragovernmental Earned Revenue	261	408
Public Earned Revenue	40	16
Total Space Operations Earned Revenue	301	424
Total Space Operations Net Cost	**6,142**	**7,693**
Net Cost of Operations	**$ 15,078**	**$ 17,634**

NOTE 14. APPORTIONMENT CATEGORIES OF OBLIGATIONS INCURRED: DIRECT VS. REIMBURSABLE OBLIGATIONS

Category A consists of amounts requested to be apportioned for each calendar quarter in the fiscal year. Category B consists of amounts requested to be apportioned on a basis other than calendar quarters, such as time periods other than quarters, activities, projects, objects, or a combination thereof.

(In Millions)	2007	2006
Direct Obligations:		
Category A	$ 1	$ 1
Category B	16,705	16,767
Reimbursable Obligations:		
Category B	946	1,005
Total Obligations Incurred	**$ 17,652**	**$ 17,773**

NOTE 15. EXPLANATION OF DIFFERENCES BETWEEN THE STATEMENT OF BUDGETARY RESOURCES (SBR) AND THE BUDGET OF THE U.S. GOVERNMENT

The FY 2009 Budget of the United States Government (President's Budget) presenting the actual amounts for the year ended September 30, 2007 has not been published as of the issue date of these financial statements. The FY 2009 President's Budget is scheduled for publication in February 2008.

NASA reconciled the amounts of the FY 2006 column on the SBR to the actual amounts for FY 2006 in the FY 2008 President's Budget for budgetary resources, obligations incurred, distributed offsetting receipts and net outlays as presented below.

(In Millions)	Budgetary Resources	Obligations Incurred	Distributed Offsetting Receipts	Net Outlays
Combined Statement of Budgetary Resources	**$ 20,110**	**$ 17,773**	**$ 8**	**$ 15,206**
Included on SBR, not in President's Budget				
Expired Accounts	(227)	(42)	—	—
Distributed Offsetting Receipts	—	—	(8)	8
Other	(2)	2	—	—
Budget of the United States Government	**$ 19,881**	**$ 17,733**	**$ —**	**$ 15,214**

The difference between the SBR and the President's Budget represents expired, unobligated balances reported on the SBR but not in the Budget of the United States Government and other is primarily rounding.

NOTE 16. UNDELIVERED ORDERS AT THE END OF THE PERIOD

Undelivered Orders at the end of the period totaled $5,669 million and $5,822 million as of September 30, 2007 and September 30, 2006, respectively.

NOTE 17. RESTATEMENT

NASA has undertaken a continuous effort to validate and correct Agency financial data. In the course of this action the Agency identified erroneous account balances. These erroneous account balances occurred in years prior to FY 2006 and stemmed from the Agency's consolidation of its legacy systems into a single agency-wide system. The majority of these errors were corrected during FY 2007 and resulted in adjustments to the Agency's beginning unobligated account balances. The net effect of these adjustments was to decrease the beginning unobligated account balance by $39 million.

NASA identified and recorded prior period adjustments to reflect the retroactive correction of errors stemming from the Agency's conversion to a new automated financial system and the review results of reconciling the accounting for Property, Plant and Equipment.

The errors occurred prior to 2006. NASA has reported the cumulative effect of those errors as prior period adjustments. The 2006 Beginning Balance of Cumulative Results of Operations as reported on the Statement of Changes in Net Position has been adjusted to reflect this correction.

The system conversion related errors occurred during the implementation of the integrated financial management system in fiscal years 2002 and 2003. The implementation included consolidating more than nine separate accounting systems into a single, integrated Agency-wide system. NASA did not convert unsupportable data to the new financial system. This action resulted in differences between the legacy accounting balances and the data that was ultimately converted into the net position account. Since system implementation, reconciliations have been performed of on-going transactions and the prior period adjustments were necessary to complete the correction process.

The Statement of Changes in Net Position reflects these legacy prior period adjustments which resulted in a $712 million reduction of Cumulative Results of Operations and a $704 million increase of Unexpended Appropriations.

Additionally, NASA recorded a prior period adjustment to reflect the correction of an error related to property out-granted to other entities. Out-granted property was improperly excluded from the property inventory. This resulted in the understatement of property and associated accumulated depreciation. The reconciliations of this property resulted in a $68 million increase to Cumulative Results of Operations, and an associated increase in the net book value of Property, Plant and Equipment.

NOTE 18. RECONCILIATION OF NET COST TO BUDGET

Standard of Federal Financial Accounting Standards No. 7 (SFFAS 7), *Accounting for Revenues and Other Financing Sources and Concepts for Reconciling Budgetary and Financial Accounting* requires a reconciliation of proprietary and budgetary accounting information. Accrual-based measures used in the Statement of Net Cost differ from the obligation-based measures used in the Statement of Budgetary Resources.

Prior to fiscal year 2007, the Statement of Financing (SOF) was a basic financial statement to reconcile the budgetary obligation and non budgetary resources available to the reporting entity with its net cost of operations. The Statement of Financing is intended to provide assurance certain financial information is consistent with similar amounts found in budget reports. The Statement of Financing reconciles obligations of budget authority to the accrual-based net cost of operations. The Net Cost of Operations as presented on the Statement of Financing is determined by netting the obligations as adjusted and non-budgetary resources and making adjustments for the total resources that do not fund net cost of operations, the total costs that do not require resources, and financing sources yet to be provided. The result is Net Cost of Operations as reported on the Statement of Net Cost.

(In Millions)	2007	Restated 2006
Resources Used to Finance Activities:		
Budgetary Resources Obligated		
Obligations Incurred	$ 17,652	$ 17,773
Less: Spending Authority from Offsetting Collections and Recoveries	1,688	1,247
Obligations Net of Offsetting Collections and Recoveries	15,964	16,526
Less: Offsetting Receipts	1	8
Net Obligations	15,963	16,518
Other Resources		
Transfers In/Out Without Reimbursements	2	—
Imputed Financing from Costs Absorbed by Others	171	149
Net Other Resources Used to Finance Activities	173	149
Total Resources Used to Finance Activities	**16,136**	**16,667**
Resources Used to Finance Items Not Part of the Net Cost of Operations		
Change in Budgetary Resources Obligated for Goods, Services, and Benefits Ordered But Not Yet Provided	(582)	(1,598)
Resources That Fund Expenses Recognized in Prior Periods	(31)	(47)
Budgetary Offsetting Collections and Receipts that Do Not Affect the Net Costs of Operations—Other	3	55
Resources that Finance the Acquisition of Assets	(4,493)	(3,482)
Other Resources or Adjustments to Net Obligated Resources That Do Not Affect Net Cost of Operations	(2)	—
Total Resources Used to Finance Items Not Part of the Net Cost of Operations	**(5,105)**	**(5,072)**
Total Resources Used to Finance the Net Cost of Operations	**$ 11,031**	**$ 11,595**

NOTE 18. RECONCILIATION OF NET COST TO BUDGET (CONTINUED)

(In Millions)	2007	Restated 2006
Components of Net Cost That Will Not Require or Generate Resources in the Current Period:		
Components Requiring or Generating Resources in Future Periods		
Increases in Annual Leave Liability	$ 3	$ 8
Increases in Environmental and Disposal Liability	70	68
Other	1,039	180
Total Components of Net Cost that Will Require or Generate Resources in Future Periods	**1,112**	**256**
Components Not Requiring or Generating Resources		
Depreciation	2,875	5,730
Revaluation of Assets or Liabilities	57	7
Other	3	46
Total Components of Net Cost of Operations that Will Not Require or Generate Resources	**2,935**	**5,783**
Total Components of Net Cost of Operations that Will Not Require or Generate Resources in the Current Period	**4,047**	**6,039**
Net Cost of Operations	**$ 15,078**	**$ 17,634**

National Aeronautics and Space Administration
Required Supplementary Stewardship Information
(Fiscal Years 2007 and 2006 Are Unaudited)
Stewardship Investments: Research and Development

Research and Development Expenses by Business Lines

NASA's programs and activities are carried out through four Business Lines: Aeronautics Research, Exploration Systems, Science and Space Operations. Each Business Line is comprised of multiple themes and numerous programs comprise each theme. In FY 2006 NASA's former enterprise structure was mapped to the new Business Line structure and NASA reports Research and Development (R&D) expenses using the new structure. Therefore, R&D expenses are now reported on a Program not Enterprise basis. This is NASA's second year reporting under this new structure.

To provide the reader with a full picture of NASA expenses, both R&D and non-R&D, NASA has included expenses for non R&D costs associated with NASA activities such as Education and Outreach, Space Operations Programs. Descriptions for the work associated with these costs are also presented.

National Aeronautics and Space Administration
Required Supplementary Stewardship Information
(Fiscal Years 2007 and 2006 Are Unaudited)
Stewardship Investments: Research and Development (Continued)

Research and Development Expenses by Business Line by Theme by Program

(In Millions)	2007	Restated 2006
Aeronautics Research		
Aeronautics Technology		
Aviation Safety and Security	$ 64	$ 152
Airspace Systems	87	144
Fundamental Aeronautics	405	754
Aeronautics Test	38	—
Aeronautics Technology Total	594	1,050
Aeronautics Research Total	**$ 594**	**$ 1,050**
Exploration Systems		
Constellation Systems		
Constellation Systems	$ 2,385	$ 1,419
Constellation Systems Total	2,385	1,419
Exploration Systems Research & Technology		
Exploration Technology Development	306	—
Lunar Precursor Robotic Program	149	95
Prometheus Nuclear Systems & Technology	14	—
Nuclear Flight Systems	—	24
Advanced Systems and Technology	—	291
Advance Space Technology	—	3
Technology Maturation	—	111
Exploration Systems Research & Technology Total	469	524
Human Systems Research & Technology		
Life Support & Habitation	130	361
Human Health & Performance	160	136
Human Systems Integration	44	174
Human Systems Research & Technology Total	334	671
Exploration Systems Total	**$ 3,188**	**$ 2,614**

National Aeronautics and Space Administration
Required Supplementary Stewardship Information
(Fiscal Years 2007 and 2006 Are Unaudited)
Stewardship Investments: Research and Development (Continued)

Research and Development Expenses by Business Line by Theme by Program (Continued)

	2007	Restated 2006
Science		
Solar System Exploration		
Discovery	$ 129	$ 127
New Frontiers	107	107
Technology	941	1,277
Deep Space Mission Systems (DSMS)	221	187
Solar System Exploration (SSE) Research	255	321
Mars Exploration	699	599
Solar System Exploration Total	2,352	2,618
The Universe		
Navigator	88	87
James Webb Space Telescope	324	315
Hubble Space Telescope	135	452
SOFIA	51	—
Gamma-ray Large Space Telescope (GLAST)	70	87
Discovery	110	114
Astrophysics Explorer	69	58
Astrophysics Research	226	225
International Space Science Collaboration	15	6
Beyond Einstein	12	8
The Universe Total	1,100	1,352
Earth–Sun System		
Earth Systematic Missions	201	293
Living with a Star	163	257
Solar Terrestrial Probes	47	95
Explorer	78	114
Earth System Science Pathfinder	119	104
Earth–Sun System Multi-Mission Operations	209	290
Earth–Sun System Division	718	926
Applied Sciences	60	48
Earth–Sun Technology	85	82
Earth–Sun System	1,680	2,209
Science Total	**$ 5,132**	**$ 6,179**
Total Research & Development Expenses	**$ 8,914**	**$ 9,843**

National Aeronautics and Space Administration
Required Supplementary Stewardship Information
(Fiscal Years 2007 and 2006 Are Unaudited)
Stewardship Investments: Research and Development (Continued)

Non-Research and Development Expenses by Business Line by Theme by Program

	2007	Restated 2006
Science		
The Universe		
SOFIA	$ —	$ 58
Earth–Sun System		
Education and Outreach	22	40
Science Total	**$ 22**	**$ 98**
Space Operations		
Space Shuttle		
Space Shuttle	$ 3,351	$ 4,245
Hurricane Recovery *	85	—
International Space Station	1,402	1,705
Space and Flight Support (SFS)**	—	1,743
Space Communications	152	—
Launch Services	1,102	—
Rocket Propulsion Testing	43	—
Crew Health & Safety	7	—
Space Operations Total	**$ 6,142**	**$ 7,693**
Total Non-Research & Development Expenses	**$ 6,164**	**$ 7,791**
Total Expenses	**$ 15,078**	**$ 17,634**

* Hurricane Recovery is reported under Space Shuttle because the majority of the Hurricane damage impacted Space Shuttle facilities.

** Space and Flight Support (SFS) was broken out into 4 categories in FY 2007. This break out is not available for FY 2006.

NASA makes substantial research and development investments for the benefit of the United States. These amounts are expensed as incurred in determining the net cost of operations.

NASA's research and development programs include activities to extend our knowledge of Earth, its space environment, and the universe, and to invest in new aeronautics and advanced space transportation technologies that support the development and application of technologies critical to the economic, scientific, and technical competitiveness of the United States.

Investment in research and development refers to those expenses incurred to support the search for new or refined knowledge and ideas and for the application or use of such knowledge and ideas for the development of new or improved products and processes with the expectation of maintaining or increasing national economic productive capacity or yielding other future benefits. Research and development is composed of the following:

Basic Research: Systematic study to gain knowledge or understanding of the fundamental aspects of phenomena and of observable facts without specific applications toward processes or products in mind;

Applied Research: Systematic study to gain knowledge or understanding necessary for determining the means by which a recognized and specific need may be met; and

Development: Systematic use of the knowledge and understanding gained from research for the production of useful materials, devices, systems or methods, including the design and development of prototypes and processes.

Business Line Theme and Program Descriptions

BUSINESS LINE: SCIENCE

Theme: Aeronautics Technology (AT)
Aeronautics Technology develops technologies to improve aircraft and air system safety, security and performance; reduce aircraft noise and emissions; and increase the capacity of the National Airspace System (NAS).

Program: Aviation Safety and Security (AvSSP)
The Aviation Safety and Security (AvSSP) program conducts research and technology that directly addresses the safety and security needs of the National Airspace System (NAS) and the aircraft that fly in the NAS. AvSSP will develop prevention, intervention, and mitigation technologies and strategies aimed at one or more causal, contributory, or circumstantial factors of aviation accidents.

Program: Airspace Systems Program (ASP)
The program enables revolutionary improvements and modernization of the National Airspace System, as well as the introduction of new systems for vehicles that can take advantage of an improved, modern, air transportation system.

Program: Fundamental Aeronautics
The Fundamental Aeronautics Program (FAP) conducts research and development technology to enable revolutionary capabilities for the future of aviation. NASA will develop advanced tools and capabilities that will enable whole new classes of aircraft that not only meet the noise and emissions requirements of the future but that also provide fast, efficient, and economical flight.

Program: Aeronautics Test Program
The Aeronautics Test Program (ATP) is dedicated to the mastery and intellectual stewardship of the core competencies of Aeronautics testing, both on the ground and in the air. ATP's purpose is to ensure the strategic availability of a minimum, critical suite of aeronautical test facilities which are necessary to meet the long-term needs and requirements of the nation.

BUSINESS LINE: EXPLORATION SYSTEMS

Theme: Constellation Systems
Through the Constellation Systems Theme NASA will develop, demonstrate, and deploy the collection of systems that will enable sustained human and robotic exploration of the Moon, Mars, and beyond.

Program: Constellation Systems
The Constellation Systems program (which replaced the Earth Orbit Capability program) objective is to develop, demonstrate, and deploy the capabilities to transport crew and cargo for missions to the lunar surface safely return the crew to Earth.

Theme: Exploration Systems Research and Technology
The Exploration Systems Research and Technology (ESR&T) Theme represents NASA's commitment to investing in the technologies and capabilities that will make the national vision for space exploration possible.

Program: Exploration Technology Development
The Exploration Technology Development Program (ETDP) develops new technologies that will enable NASA to conduct future human and robotic exploration missions, while reducing mission risk and cost. By maturing new technologies to the level of demonstration in a relevant environment early enough to support a flight system's Preliminary Design Review (PDR), NASA can significantly reduce both cost and risk.

Program: Lunar Precursor Robotic
The Lunar Precursor Robotic program (formerly Robotic Lunar Exploration) will undertake lunar exploration activities that enable sustained human and robotic exploration of the Moon. These activities will further science, and develop and test new approaches, technologies, and systems, including use of lunar and other space resources, to support sustained human space exploration.

Program: Prometheus Nuclear Systems and Technology
Prometheus Nuclear Systems and Technology represents NASA's effort to develop an advanced technology capability for more complex operations and exploration of the solar system. Due to restructuring, Prometheus Nuclear Systems and Technology is now a program within the ESR&T Theme.

Program: Nuclear Flight Systems
The Nuclear Flight Systems program continues NASA's development of nuclear reactor power and associated spacecraft systems to enhance NASA's abilities to conduct robotic exploration and science operations. *Note: This Program was restructured to be included in the Prometheus Nuclear Systems and Technology Program in FY 2007.*

Program: Advanced Systems and Technology
The Advanced Systems and Technology program develops and demonstrates advanced nuclear technologies and engineered systems. This technology development will be necessary to support NASA's goal of more distant, more ambitious, and longer duration human and robotic exploration of Mars and other destinations. *Note: This Program was restructured to be included in the Prometheus Nuclear Systems and Technology Program in FY 2007.*

Program: Advanced Space Technology
The Advanced Space Technology program develops new technologies that will enable NASA to conduct new human and robotic exploration missions, gather new types of scientific data, and reduce mission risk and cost.

Program: Technology Maturation
The Technology Maturation program develops and validates the most promising advanced space technology concepts and matures them to the level of demonstration and space flight validation, to enable safe, affordable, effective and sustainable human-robotic exploration.

Theme: Human Systems Research and Technology
This Theme focuses on ensuring the health, safety, and security of humans through the course of solar system exploration.

Program: Life Support and Habitation
The Life Support and Habitation program focuses on enabling human exploration beyond low Earth orbit by developing technologies to support human activity in and beyond low Earth orbit.

Program: Human Health and Performance
The Human Health and Performance program delivers research, technology, knowledge, and tools that will enable human space exploration. Specifically, the Human Health and Performance program will guide the development of various countermeasures to aid astronauts counteract any deleterious effects of long-duration missions in the space environment; develop tools and techniques to improve medical care delivery to space exploration crews; increase our biomedical knowledge and improve understanding of radiation effects to reduce the uncertainty in estimating space radiation health risks to human crews; and, acquire new information in exploration biology, which will identify and define the scope of problems that will face future human space explorers during long periods of exposure to space.

Program: Human Systems Integration
The Human-Systems Integration program conducts research and technology development driven by Agency needs for crew health; design of human spacecraft, space suits, and habitats; efficient crew operations; medical operations; and technology development to enable safe and productive human space exploration.

BUSINESS LINE: SCIENCE

Theme: Solar System Exploration
The Solar System Exploration (SSE) Theme seeks to understand how the solar system formed and evolved, and whether there might be life in the solar system beyond Earth.

Program: Discovery
NASA's Discovery program represents a breakthrough in the way NASA explores space, with lower-cost, highly focused planetary science investigations designed to enhance our understanding of the solar system.

Program: New Frontiers
The New Frontiers program, a class of competed medium-sized missions, represents a critical step in the advancement of the solar system exploration. Proposed science targets for the New Frontiers program include Pluto and the Kuiper Belt, Jupiter, Venus, and sample returns from Earth's Moon and a comet nucleus.

Program: Technology
Robotic spacecraft use electrical power for propulsion, data acquisition, and communication to accurately place themselves in orbit around and onto the surfaces of bodies about which we may know relatively little. These systems ensure that they survive and function in hostile and unknown environments, acquire and transmit data

throughout their lifetimes, and sometimes transport samples back to Earth. Since successful completion of these missions is so dependent on power, the future SSE portfolio of missions will demand advances in power and propulsion systems.

Program: Deep Space Mission System (DSMS)
This program seeks to enable NASA exploration, both human and robotic, of the solar system and beyond by providing reliable, high performance, and cost effective telecommunications and navigation services to its lunar and deep space missions.

Program: Solar System Exploration (SSE) Research
The Solar System Exploration (SSE) Research program (formerly Solar System Research) develops the theoretical tools and laboratory data needed to analyze flight data, makes possible new and better instruments to fly on future missions, and analyzes the data returned so that SSE can answer specific questions posed and fit this new knowledge into the overall picture of the solar system.

Program: Mars Exploration
The Mars Exploration program has been developed to conduct a rigorous, incremental, discovery-driven exploration of Mars to determine the planet's physical, dynamic, and geological characteristics, investigate the Martian climate in the context of understanding habitability, and investigate whether Mars ever had the potential to develop and harbor any kind of life.

Theme: The Universe
The Universe Theme supports NASA's mission to "explore the universe and search for life" by attempting to understand the origin and evolution of life, searching for evidence of life elsewhere and exploring the universe beyond.

Program: Navigator
The Navigator program consists of a coherent series of increasingly challenging projects, each complementary to the others and each mission building on the results and capabilities of those that preceded it as NASA searches for habitable planets outside of the solar system.

Program: The James Webb Space Telescope (JWST)
The program identified by the National Research Council as the top priority for astronomy and physics for the current decade--is a large, deployable infrared astronomical space-based observatory. The mission is a logical successor to the HST, extending beyond Hubble's discoveries into the infrared, where the highly redshifted early universe must be observed, where cool objects like protostars and protoplanetary disks emit strongly, and where dust obscures shorter wavelengths.

Program: Hubble Space Telescope
Since 1990, the HST has used its pointing precision, powerful optics, and state-of-the-art instruments to explore the visible, ultraviolet and near-infrared regions of the electromagnetic spectrum. Until such time that Hubble is no longer able to carry out its scientific mission, the observatory will continue to investigate the formation, structure, and evolution of stars and galaxies, studying the history of the universe, and providing a space-based research facility for optical astronomy.

Hubble development funding supports a suite of life extension activities, which will maximize science return as the telescope's capabilities degrade over time. In addition, a robotic spacecraft is under development to be launched on an expendable launch vehicle, rendezvous with HST, and safely deorbit the observatory at the end of its useful science life. While this development activity is underway, modification and upkeep of ground operations systems will continue.

Program: SOFIA
The Stratospheric Observatory for Infrared Astronomy (SOFIA) program offers a unique world-class facility for infrared astronomy covering parts of the spectrum that cannot be covered from the ground. As a result, SOFIA will provide unique insights into scientific questions regarding energetics of luminous galaxies, the origin of stars and planetary systems, gas and grain chemistry of the interstellar medium, and the structure of the solar system.

Program: Gamma-ray Large Area Space Telescope (GLAST)
A collaboration with the Department of Energy, France, Italy, Sweden, Japan, and Germany, the Gamma-ray Large Area Space Telescope (GLAST) will improve researchers' understanding of the structure of the universe, from its earliest beginnings to its ultimate fate. By measuring the direction, energy, and arrival time of celestial high-energy gamma rays, GLAST will map the sky with 50 times the sensitivity of previous missions, with corresponding improvements in resolution and coverage. Yielding new insights into the sources of high-energy cosmic gamma rays, GLAST will reveal the nature of astrophysical jets and relativistic flows and study the sources of gamma-ray bursts.

Program: Discovery
The Discovery program gives scientists the opportunity to dig deep into their imaginations and find innovative ways to unlock the mysteries of the solar system. Discovery is an ongoing program that offers the scientific community the opportunity to assemble a team and design exciting, focused science investigations that complement NASA's larger planetary science explorations.

Program: Astrophysics Explorer
The Astrophysics Explorer program (formerly Explorer) provides frequent flight opportunities for world-class astrophysics and space physics investigations, utilizing innovative, streamlined and efficient management approaches to spacecraft development and operations. The program (including Future Explorers) is managed within the Earth -Sun Theme, but selected projects are managed under the Universe Theme.

Program: Astrophysics Research
The Astrophysics Research program (formerly Universe Research) strives to answer critical questions about the nature of the universe with a host of operating missions led by investigators from academia and industry, as well as funding grants for basic research, technology development, and data analysis from past and current missions. All data collected by missions are archived in data centers located at universities and NASA centers throughout the country.

Program: International Space Science Collaboration (SSC)
Herschel and Planck, two projects in the International Space Science Collaboration (SSC) Program, are European Space Agency (ESA)-led missions. Herschel has been designed to unveil a face of the early universe that has remained hidden until now. Planck will help provide answers to one of the most important sets of questions asked in modern science: how did the universe begin, how did it evolve to the state we observe today, and how will it continue to evolve in the future?

Program: Beyond Einstein
Beyond Einstein (BE) flagship missions are the Laser Interferometer Space Antenna (LISA) & Constellation-X (Con-X). LISA, a joint effort NASA/ESA effort, will be the first space-based gravitational wave observatory. LISA will study the death spirals of stars, colliding black holes, and echoes from the universe all the way back to the Big Bang. Con-X will be a combination of several separate spacecraft working in unison as 1 giant X-ray telescope far more powerful than any previous. Con-X will investigate black holes, galaxy formation, the evolution of the universe on the largest scales, the recycling of matter and energy, and the nature of "dark matter."

Theme: Earth–Sun System
NASA uses the unique vantage point of space to understand and explore Earth and the Sun. The relationship between the Sun and the Earth is at the heart of a complex, dynamic system that researchers do not yet fully understand. The Earth–Sun system, like the human body, is comprised of diverse components that interact in complex ways, requiring unique capabilities for characterizing, understanding, and predicting change. Therefore, researchers need to understand the Sun, the heliosphere, and Earth's atmosphere, lithosphere, hydrosphere, cryosphere, and biosphere as a single connected system.

Program: Earth Systematic Missions
Earth Systematic Missions provide Earth observing satellites that contribute to the provision of long-term environmental data sets that can be used to study the evolution of the Earth system on a range of temporal scales. This information is used to analyze, model, and improve understanding of the Earth system.

Program: Living with a Star
The Living With a Star (LWS) program seeks to understand how and why the Sun varies, how Earth and other planets respond, and how the variability and response affect humanity. Achieving these goals will enable a reliable space weather prediction so undesirable space weather effects can be accommodated or mitigated before they occur.

Program: Solar Terrestrial Probes (STP)
The primary goal of the Solar Terrestrial Probes (STP) Program is to understand how the Sun, heliosphere, and planetary environments are connected in a single system.

Program: Explorer
The mission of the Explorer program is to provide frequent flight opportunities for world-class astrophysics and space physics investigations, utilizing innovative, streamlined and efficient management approaches to spacecraft development and operations.

Program: Earth System Science Pathfinder (ESSP)
This program addresses unique, specific, highly-focused mission requirements in Earth science research. ESSP includes a series of relatively low to moderate cost, small to medium sized, competitively selected, principal investigator led missions that are built, tested, and launched in a short time interval. These missions are capable of supporting a variety of scientific objectives related to Earth science, involving the atmosphere, oceans, land surface, polar ice regions and solid earth.

Program: Earth–Sun System Multi-Mission Operations
This program acquires, preserves, and delivers the observation data for the Science Mission Directorate/Earth–Sun System scientific focus areas in conformance with national science objectives.

Program: Earth–Sun System Division (ESSD)
The program observations and research aim to improve our capability for predicting weather, climate and natural hazards, including space weather. The focus of NASA's efforts in ESSD is the development and demonstration of space-based measurements, providing information about the Earth–Sun system not available by other means.

Program: Applied Sciences
The Applied Sciences program bridges the gap between scientific discoveries and practical applications that benefit society through partnerships that integrate the observations and predictions resulting from NASA Earth–Sun system science into solutions.

Program: Earth–Sun Technology
NASA's ESSD is dedicated to understanding the total Earth–Sun system and the effects of natural and human-induced changes on the global environment.

NON-R&D Programs

BUSINESS LINE: SCIENCE

Theme: Earth–Sun System

Program: Education and Outreach
The program uses NASA's results from studying the Earth system and the Sun to enhance the teaching and learning of Earth, space, and environmental sciences through partnerships with educational institutions and organizations.

BUSINESS LINE: SPACE OPERATIONS

Theme: Space Shuttle
The Space Shuttle is currently the only launch capability owned by the United States that enables human access to space, and the only vehicle that can support the assembly of the International Space Station (ISS). NASA will phase-out the Space Shuttle in 2010 when its role in ISS assembly is complete.

Program: Space Shuttle
For FY 2008, the Space Shuttle Program manifest calls for completing four ISS assembly flights as well as the SM4 servicing mission to the Hubble Space Telescope. The ISS assembly flights include the launch of major research facility modules from the European Space Agency and Japan.

Program: Hurricane Recovery
The Hurricane Recovery program includes emergency supplemental costs for Hurricane Katrina response and recovery.

Theme: International Space Station
This Theme supports the construction and operations of a research facility in low Earth orbit as NASA's first step in achieving the Vision for Space Exploration. The ISS provides a unique, continuously operating capability to develop medical countermeasures for long-term human space travel: develop and test technologies and engineering solutions in support of exploration; and provide ongoing practical experience in living and working in space. It also supports a variety of pure and applied research for the U.S. and its International Partners. ISS assembly will be completed by the end of the decade. NASA is examining configurations for the Space Station that meet the needs of both the new space exploration vision and our international partners using as few Shuttle flights as possible. A key element of the ISS program is the crew and cargo services project, which will purchase services for cargo and crew transport using existing and emerging capabilities.

Theme: Space and Flight Support
This theme encompasses Space Communications, Launch Services, Rocket Propulsion Testing, and Crew Health and Safety. Space Communications consists of (1) the Tracking and Data Relay Satellite System (TDRSS), which supports activities such as the Space Shuttle, ISS, Expendable Launch Vehicles, and research aircraft, and (2) the NASA Integrated Services Network, which provides telecommunications services at facilities, such as flight support networks, mission control centers and science facilities, and administrative communications networks for NASA Centers. The Launch Services program focuses on meeting the Agency's launch and payload processing

requirements by assuring safe and cost-effective access to space via the Space Shuttle and expendable launch vehicles.

Program: Space Communications
The Space Communications Program (SCP) links flight missions to Earth to accomplish mission objectives. NASA's backbone of communications capabilities reliably transmit data between the ground control centers and the flight missions. These capabilities keep the missions operating safely and return volumes of science and technology data that has led to innumerable discoveries about Earth, the solar system, and the universe.

Program: Launch Services
The Launch Services Program, which works closely with other government agencies and the launch industry, seeks to ensure that the most safe, reliable, on-time, cost-effective launch opportunities are available on a wide range of launch systems.

Program: Rocket Propulsion Testing
As the principal implementing authority for NASA's rocket propulsion testing, the Rocket Propulsion Test (RPT) Program reviews, approves, and provides direction on rocket propulsion test assignments, capital asset improvements, test facility modernizations and refurbishments, integration for multi-site test activities, identification and protection of core capabilities, and the advancement and development of test technologies.

Program: Crew Health & Safety
The health care of the NASA Astronaut Corps is the responsibility of space medical operations at the Johnson Space Center. A portion of the responsibilities for that care is managed within the Crew Health and Safety program (CHS). CHS enables the following: 1) healthy and productive crew during all phases of spaceflight missions; 2) implementation of a comprehensive health care program for astronauts; and 3) the prevention and mitigation of negative long-term health consequences of space flight.

National Aeronautics and Space Administration
Required Supplementary Information
Combined Schedule of Budgetary Resources
(For the Fiscal Year Ended September 30, 2007, Unaudited)

(In Millions)	Exploration, Science, and Aeronautics	Exploration Capabilities	Office of Inspector General	Other	Total
Budgetary Resources					
Unobligated Balance, Brought Forward, October 1	$ 1,448	$ 743	$ 4	$ 103	$ 2,298
Recoveries of Prior Year Obligations	308	109	2	41	460
Budget Authority:					
Appropriation	10,086	6,166	32	1	16,285
Spending Authority from Offsetting Collections Earned					
Collected	469	324	—	72	865
Change in Receivable from Federal Sources	11	(41)	—	(12)	(42)
Change in Unfilled Orders					
Advance Received	(17)	(9)	—	(24)	(50)
Without Advance from Federal Sources	274	159	—	22	455
Anticipated for Rest of Year, Without Advances	—	—	—	—	—
Subtotal	10,823	6,599	32	59	17,513
Nonexpenditure Transfers, Net:					
Actual Transfers, Budget Authority	(1)	2	—	—	1
Permanently Not Available					
Cancellations of Expired and No-year Accounts	—	—	(1)	(25)	(26)
Enacted Reductions	—	—	—	—	—
Total Budgetary Resources	**$ 12,578**	**$ 7,453**	**$ 37**	**$ 178**	**$ 20,246**
Status of Budgetary Resources					
Obligations Incurred:					
Direct:	$ 10,173	$ 6,462	$ 33	$ 38	$ 16,706
Reimbursable:	558	343	—	45	946
Subtotal	10,731	6,805	33	83	17,652
Unobligated Balance:					
Apportioned	1,766	612	1	34	2,413
Exempt from Apportionment	—	—	—	—	—
Subtotal	1,766	612	1	34	2,413
Unobligated Balance Not Available	81	36	3	61	181
Total Status of Budgetary Resources	**$ 12,578**	**$ 7,453**	**$ 37**	**$ 178**	**$ 20,246**
Change in Obligated Balance					
Obligated Balance, Net, October 1	$ 5,112	$ 1,838	$ 5	$ 331	$ 7,286
Obligations Incurred	10,731	6,805	33	83	17,652
Less: Gross Outlays	9,756	6,691	31	209	16,687
Less: Recoveries of Prior Year Unpaid Obligations	308	109	2	41	460
Change in Uncollected Customer Payments from Federal Sources	(285)	(118)	—	(10)	(413)
Subtotal	5,494	1,725	5	154	7,378

National Aeronautics and Space Administration
Required Supplementary Information
Combined Schedule of Budgetary Resources
(For the Fiscal Year Ended September 30, 2007, Unaudited, Continued)

(In Millions)	Exploration, Science, and Aeronautics	Exploration Capabilities	Office of Inspector General	Other	Total
Obligated Balance, Net, End of Period					
Unpaid Obligations	$ 6,010	$ 1,989	$ 5	$ 172	$ 8,176
Less: Uncollected Customer Payments from Federal Sources	516	264	—	18	798
Total, Unpaid Obligated Balance, Net, End of Period	**$ 5,494**	**$ 1,725**	**$ 5**	**$ 154**	**$ 7,378**
Outlays					
Net Outlays:					
Gross Outlays	$ 9,756	$ 6,691	$ 31	$ 209	$ 16,687
Less: Offsetting Collections	452	315	—	48	815
Less: Distributed Offsetting Receipts	—	—	—	1	1
Net Outlays	**$ 9,304**	**$ 6,376**	**$ 31**	**$ 160**	**$ 15,871**

National Aeronautics and Space Administration
Required Supplementary Information
Combined Schedule of Budgetary Resources
(For the Fiscal Year Ended September 30, 2006, Unaudited)

(In Millions)	Exploration, Science, and Aeronautics	Exploration Capabilities	Office of Inspector General	Other	Total
Budgetary Resources					
Unobligated Balance, Brought Forward, October 1	$ 1,245	$ 840	$ 4	$ 152	$ 2,241
Recoveries of Prior Year Obligations	183	105	—	80	368
Budget Authority:					
Appropriation	9,761	7,048	32	2	16,843
Spending Authority from Offsetting Collections Earned					
Collected	598	360	—	31	989
Change in Receivable from Federal Sources	11	35	—	(5)	41
Change in Unfilled Orders					
Advance Received	36	8	—	13	57
Without Advance from Federal Sources	(129)	(81)	—	2	(208)
Subtotal	10,277	7,370	32	43	17,722
Nonexpenditure Transfers, Net:					
Actual Transfers, Budget Authority	85	(59)	—	—	26
Permanently Not Available					
Cancellations of Expired and No-year Accounts	—	—	—	(37)	(37)
Enacted Reductions	(125)	(85)	—	—	(210)
Total Budgetary Resources	**$ 11,665**	**$ 8,171**	**$ 36**	**$ 238**	**$ 20,110**
Status of Budgetary Resources					
Obligations Incurred:					
Direct:	$ 9,630	$ 7,047	$ 32	$ 59	$ 16,768
Reimbursable:	578	384	—	43	1,005
Subtotal	10,208	7,431	32	102	17,773
Unobligated Balance:					
Apportioned	1,403	707	—	33	2,143
Exempt from Apportionment	—	—	—	4	4
Subtotal	1,403	707	—	37	2,147
Unobligated Balance Not Available	54	33	4	99	190
Total Status of Budgetary Resources	**$ 11,665**	**$ 8,171**	**$ 36**	**$ 238**	**$ 20,110**
Change in Obligated Balance					
Obligated Balance, Net, October 1	$ 3,454	$ 1,950	$ 6	$ 563	$ 5,973
Obligations Incurred, Net	10,209	7,431	32	101	17,773
Less: Gross Outlays	8,486	7,484	33	256	16,259
Less: Recoveries of Prior Year Unpaid Obligations	183	105	—	80	368
Change in Uncollected Customer Payments from Federal Sources	118	46	—	3	167
Subtotal	5,112	1,838	5	331	7,286

National Aeronautics and Space Administration
Required Supplementary Information
Combined Schedule of Budgetary Resources
(For the Fiscal Year Ended September 30, 2006, Unaudited, Continued)

(In Millions)	Exploration, Science, and Aeronautics	Exploration Capabilities	Office of Inspector General	Other	Total
Obligated Balance, Net, End of Period					
Unpaid Obligations	$ 5,343	$ 1,984	$ 5	$ 339	$ 7,671
Less: Uncollected Customer Payments from Federal Sources	231	146	—	8	385
Total, Unpaid Obligated Balance, Net, End of Period	**$ 5,112**	**$ 1,838**	**$ 5**	**$ 331**	**$ 7,286**
Outlays					
Net Outlays:					
Gross Outlays	$ 8,486	$ 7,484	$ 33	$ 256	$ 16,259
Less: Offsetting Collections	633	367	—	45	1,045
Less: Distributed Offsetting Receipts	—	—	—	8	8
Net Outlays	**$ 7,853**	**$ 7,117**	**$ 33**	**$ 203**	**$ 15,206**

National Aeronautics and Space Administration
Required Supplementary Information
(Fiscal Years 2007 and 2006 Are Unaudited)
Deferred Maintenance

NASA has deferred maintenance only on its facilities, including structures. There is no significant deferred maintenance on other physical property, such as land, equipment, theme assets, leasehold improvements, or assets under capital lease. Contractor-held property is subject to the same considerations.

NASA developed a Deferred Maintenance parametric estimating method (DM method) in order to conduct a consistent condition assessment of its facilities. This method was developed to measure NASA's current real property asset condition and to document real property deterioration. The DM method produces both a parametric cost estimate of deferred maintenance, and a Facility Condition Index. Both measures are indicators of the overall condition of NASA's facility assets. The facilities condition assessment methodology involves an independent, visual assessment of nine different systems within each facility to include: structure, roof, exterior, interior finishes, HVAC, electrical, plumbing, conveyance, and program support equipment. The DM method is designed for application to a large population of facilities; results are not necessarily applicable for individual facilities or small populations of facilities. Under this methodology, NASA defines acceptable operating conditions in accordance with standards comparable to those used in private industry, including the aerospace industry.

There has been no significant changes in our deferred maintenance parametric estimating method this year. The Agency-wide FCI, based on the ratings obtained during the condition assessment site visits, remains unchanged from the previous fiscal year. The FCI values for the majority of individual Centers and sites varied less than 0.5, validating the relative stability of the Centers and sites despite the continued aging and deterioration of older facilities. Evaluation of the facility conditions by building type (Real Property Classification Code/DM Category) indicates that the Agency continues to focus maintenance and repair on direct mission-related facilities. Higher condition ratings are reported for training, launch, tracking, and fuel facilities Agency-wide. Lower condition ratings occur for infrastructure, site related systems, and static test stands.

(In Millions)	2007	2006
Deferred Maintenance Method		
Facility Condition Index (FCI)	3.6	3.6
Target Facility Condition Index	4.0	4.3
Deferred Maintenance Estimate (Active and Inactive Facilities)	$ 2,320	$ 2,050

National Aeronautics and
Space Administration

Office of Inspector General
Washington, DC 20546-0001

NOV 15 2007

TO: Administrator
Chief Financial Officer

FROM: Inspector General

SUBJECT: Audit of the National Aeronautics and Space Administration's Fiscal Year 2007 Financial Statements (Report No. IG-08-001)

Under the Chief Financial Officers Act of 1990, NASA's financial statements are to be audited in accordance with generally accepted government auditing standards. The Office of Inspector General contracted with the independent certified public accounting firm Ernst & Young LLP (E&Y) to audit NASA's financial statements in accordance with *Government Auditing Standards* and Office of Management and Budget's Bulletin No. 07-04, *Audit Requirements for Federal Financial Statements*.

In the *Report of Independent Auditors* (Enclosure 1), E&Y disclaimed an opinion on NASA's financial statements for the fiscal years ended September 30, 2007 and 2006. The disclaimer resulted from NASA's inability to provide E&Y auditable financial statements and sufficient evidence to support the financial statements throughout the fiscal year and at year-end.

The E&Y *Report on Internal Control* (Enclosure 2) includes two significant deficiencies, which are considered to be material weaknesses. Material weaknesses were found in NASA's controls for (1) financial systems, analyses, and oversight used to prepare the financial statements, and (2) assuring that property, plant, and equipment and materials are presented fairly in the financial statements. These material weaknesses have been reported for several years.

The E&Y *Report on Compliance with Laws and Regulations* (Enclosure 3) identifies several instances in which NASA's financial management systems did not substantially comply with the requirements of the Federal Financial Management Improvement Act of 1996 (FFMIA). For example, the report notes that certain subsidiary systems, including property, are not integrated with the Core Financial module and are not complemented by sufficient manual preventative and detect type controls.

NASA made progress in improving its internal controls, including resolving its fund balance with Treasury imbalances; redesigning its approach and supporting processes for implementing the requirements of the Improper Payments Information Act of 2002; developing interim tools and reports for analyzing financial statement accounts, to include aging reports; and implementing requirements for analysis of monthly comparative financial statements by NASA Centers. However, NASA management

and E&Y continued to identify weaknesses in Agency-wide internal controls, which impaired NASA's ability to report accurate financial information on a timely basis.

In FY 2007, NASA prepared a corrective action plan to address the material weaknesses and recommendations noted in the FY 2006 financial statement audit report. NASA should update that corrective action plan to address the findings detailed in the enclosed reports and to address material weaknesses identified in the Administrator's Statement of Assurance. That plan must be detailed enough to ensure successful implementation with desired results. In addition, NASA must continue to

- ensure that the Office of the Chief Financial Officer is staffed with properly trained personnel who can address the Agency's financial management and accountability challenges;
- ensure that accounting practices are consistent with applicable standards and are consistently applied;
- establish internal controls that provide reasonable assurance that the financial statements are supported, complete, and accurate; and
- implement recommendations made in E&Y's *Report on Internal Control*, as well as those made by our office and the Government Accountability Office.

E&Y is responsible for each of the enclosed reports and the conclusions expressed therein. Accordingly, we do not express an opinion on NASA's financial statements, internal controls over financial reporting, or compliance with certain laws and regulations, including, but not limited to, FFMIA.

In fulfilling our responsibilities under the Chief Financial Officers Act of 1990, we provided oversight and technical support. We monitored the progress of E&Y's audit, reviewed reports submitted by E&Y, and ensured that E&Y met contractual requirements.

Robert W. Cobb

3 Enclosures

ERNST & YOUNG

Ernst & Young LLP
1101 New York Avenue, N.W.
Washington, DC 20005-4213

Phone: (202) 327-6000
www.ey.com

Report of Independent Auditors

To the Administrator and the Office of Inspector General
of the National Aeronautics and Space Administration

We were engaged to audit the accompanying consolidated balance sheets of the National Aeronautics and Space Administration (NASA) as of September 30, 2007 and 2006, and the related consolidated statements of net cost, and changes in net position and combined statements of budgetary resources for the fiscal years then ended. These financial statements are the responsibility of NASA's management.

During fiscal year (FY) 2003, NASA implemented an Integrated Financial Management Program (IFMP) system (now referred to as the Integrated Enterprise Management Program [IEMP] system), specifically the Core Financial Module. NASA's management identified significant errors beginning with its September 30, 2003 financial statements resulting from the implementation of IEMP. During FY 2004 through FY 2007, NASA's management continued to make progress in overcoming certain weaknesses it had identified in its financial management processes and systems. In FY 2007, NASA implemented a system upgrade to resolve certain system configuration issues, updated and implemented new policies and procedures in its financial management processes, and performed research and resolved certain data issues that had plagued the integrity of the financial management system since 2003. Although significant progress had been made, many improvements were either completed during the final quarter of FY 2007 or are ongoing. Additionally, NASA management and our work continue to identify issues related to internal control and retention of documentation related to its property accounting. As a result of these limitations, we were unable to obtain sufficient evidential support for the amounts presented in the consolidated balance sheets as of September 30, 2007 and 2006, and the related consolidated statements of net costs, and changes in net position and combined statements of budgetary resources for the fiscal years then ended.

Because of the matters discussed in the preceding paragraph, the scope of our work was not sufficient to enable us to express, and we do not express, an opinion on the consolidated balance sheets as of September 30, 2007 and 2006, and the related consolidated statements of net cost, statements of changes in net position, and combined statements of budgetary resources for the fiscal years then ended.

In its preparation and analysis of its September 30, 2007 and 2006 financial statements, NASA identified certain configuration and data integrity issues and errors in balances reported on its financial statements. The notes to the financial statements describe certain potential departures from accounting principles generally accepted in the United States of America in NASA's FY 2007 and FY 2006 financial statements.

As further discussed in the notes to the financial statements, pursuant to guidance issued by the Office of Management and Budget (OMB), certain information reconciling the net costs of operations to budgetary obligations, which was previously reported in a consolidated statement of financing for the fiscal year ended September 30, 2006, has been presented in the notes to the financial statements, along with the corresponding amounts for the fiscal year ended September 30, 2007. Additionally, as discussed in Note 1 to the financial statements, in FY 2007 NASA changed its accounting policy for Property, Plant, and Equipment (PP&E) to reclassify $12.7 billion of general PP&E to research and development expenses.

The information presented in the Management's Discussion and Analysis (MD&A)—the Required Supplementary Stewardship Information and the Required Supplementary Information—is not a required part of the NASA's financial statements, but is considered supplementary information required by OMB Circular A-136, *Financial Reporting Requirements*. Such information has not been subjected to auditing procedures, and accordingly, we express no opinion on it. We were unable to apply to the information certain procedures prescribed by professional standards within the time frames established by OMB because of the limitations on the scope of our audit of the financial statements discussed above.

In accordance with *Government Auditing Standards* and OMB Bulletin No. 07-04, *Audit Requirements for Federal Financial Statements*, we have also issued our reports dated November 13, 2007, on our consideration of NASA's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, and other matters. The purpose of those reports is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing and not to provide an opinion on the internal control over financial reporting or on compliance. Those reports are an integral part of an audit performed in accordance with *Government Auditing Standards* and OMB Bulletin No. 07-04 and should be considered in assessing the results of our work.

Ernst & Young LLP

November 13, 2007
Washington, D.C.

ERNST & YOUNG

Ernst & Young LLP
1101 New York Avenue, N.W.
Washington, DC 20005-4213

Phone: (202) 327-6000
www.ey.com

Report on Internal Control

To the Administrator and the Office of Inspector General
of the National Aeronautics and Space Administration

We were engaged to audit the financial statements of the National Aeronautics and Space Administration (NASA or the Agency) as of and for the year ended September 30, 2007, and have issued our report thereon dated November 13, 2007. The report states that because of the matters discussed therein, the scope of our work was not sufficient to enable us to express, and we do not express, an opinion on the consolidated balance sheet as of September 30, 2007, and the related consolidated statements of net costs and changes in net position and combined statement of budgetary resources for the fiscal year then ended.

In planning and performing our work, we considered NASA's internal control over financial reporting as a basis for developing our auditing procedures for the purpose of expressing our opinion on the financial statements, which we were ultimately not able to do, and not for the purpose of expressing an opinion on the effectiveness of NASA's internal control over financial reporting. Accordingly, we do not express an opinion on the effectiveness of NASA's internal control over financial reporting. We limited our internal control testing to those controls necessary to achieve the objectives described in Office of Management and Budget (OMB) Bulletin No. 07-04, *Audit Requirements for Federal Financial Statements*. We did not test all internal controls relevant to operating objectives as broadly defined by the Federal Managers' Financial Integrity Act of 1982 (FMFIA), such as those controls relevant to ensuring efficient operations.

In addition, with respect to NASA's internal control over Required Supplementary Stewardship Information and performance measures reported in the Management Discussion and Analysis (MD&A), we were unable to apply certain procedures prescribed by OMB Bulletin No. 07-04 because of the limitations on the scope of the audit of the financial statements, as discussed in our Report of Independent Auditors, dated November 13, 2007. Further, we did not audit and do not express an opinion on such controls.

Our consideration of internal control over financial reporting was for the limited purposes described in the preceding paragraphs and would not necessarily identify all deficiencies in internal control over financial reporting that might be significant deficiencies or material weaknesses. However, as discussed below, we identified certain deficiencies in internal control over financial reporting that we consider to be significant deficiencies.

A control deficiency exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent or detect misstatements on a timely basis. A significant deficiency is a control deficiency, or combination of control deficiencies, that adversely affects the entity's ability to initiate, authorize, record,

process, or report financial data reliably in accordance with generally accepted accounting principles (GAAP) such that there is more than a remote likelihood that a misstatement of the entity's financial statements that is more than inconsequential will not be prevented or detected by the entity's internal control. We consider the deficiencies described below to be significant deficiencies in internal control over financial reporting.

A material weakness is a significant deficiency, or combination of significant deficiencies, that results in more than a remote likelihood that a material misstatement of the financial statements will not be prevented or detected by the entity's internal control. Our consideration of the internal control over financial reporting was for the limited purpose described above and would not necessarily identify all deficiencies in the internal control that might be significant deficiencies and, accordingly, would not necessarily disclose all significant deficiencies that are also considered to be material weaknesses. However, we consider both matters noted—Financial Systems, Analyses, and Oversight; and Enhancements Needed for Controls over Property, Plant, and Equipment (PP&E) and Materials—to be material weaknesses.

MATERIAL WEAKNESSES

Financial Systems, Analyses, and Oversight (Modified Repeat Condition)

Overview

In fiscal year (FY) 2002, NASA initiated an agency-wide effort to improve its financial management by providing a single integrated suite of financial, project, contract, and human capital tools and by implementing improved internal control processes to help manage NASA's programs and prepare financial information on a timely basis consistent with evolving OMB guidance. As part of that process, in FY 2003, NASA implemented its Integrated Enterprise Management Program (IEMP) system, specifically the Core Financial Module. This conversion effort necessitated complex data cleanup and reprogramming due to system configuration anomalies.

Beginning with its September 30, 2003, financial statements, NASA's management identified significant issues resulting from the implementation of the IEMP system. In the years that followed, NASA has reorganized its financial management structure, implemented new processes, upgraded its system, developed new guidance, and provided training to its personnel to address these issues. For example, in FY 2007, NASA management indicated that progress had been made in several areas, including:

- Core Financial Systems Improvements—NASA implemented a major system update release with the start of the fiscal year to overcome certain issues identified with the Core Financial Module. The Agency is currently preparing for an additional system update planned for the end of the fiscal year.

- Fund Balance with Treasury—NASA completed its efforts in resolving its fund balance with Treasury imbalance. Our review of the fund balance with Treasury reconciliations noted that reconciliations were performed effectively with timely resolution of current differences.
- Data Integrity Resolution Efforts—During FY 2007, NASA continued to research and resolve certain data integrity issues dating back to 2003. These "clean-up" efforts occurred throughout the year, and included adjustments to data from prior periods.
- Implementation of Improper Payments Information Act Requirements—NASA has redesigned its approach and supporting processes for implementing the requirements of the Improper Payments Information Act to more fully comply with all elements of the Act. The changes included a risk assessment that calls for reviewing payments by project rather than by contract and clarifying the criteria that constitute an improper payment.
- New Tools and Reports—NASA developed interim tools and reports for Aging and Monitoring Analysis of Undelivered Orders, Accounts Receivable, Accounts Payable, and Intra-NASA Trading Partner reconciliations. Specifically, NASA expanded the financial management metric set to include the additional reports, developed in-depth trend data to support analysis, performed in-depth metrics analysis and communicated anomalies or issues to NASA Centers (Centers) for correction, automated 16 standard reports, and updated performance metric definitions to reflect changes and updates.
- Implemented Monthly Financial Statements and Analysis—NASA implemented comparative financial reporting and analysis for all NASA Centers. The NASA Centers review their financial statements and provide explanations for variances from prior periods.
- Enhanced Monitoring and Controls—NASA enhanced monthly monitoring and control procedures by establishing and implementing enhanced reconciliation and monitoring procedures for the Centers. These include redefining the Center Chief Financial Officer (CFO) signature certification and adding a Center Deputy CFO signature review of the financial results, an explanation of impacts and the anticipated date of corrective action. Although still noting issues, we found that progress had been made in its entity-wide monitoring controls.
- Accelerated Review of Monthly Financial Data—NASA implemented the critical path for accelerated reporting of specific monitoring review areas by the 12th workday of the following month. These review areas include: fund balance with Treasury, budget, property, financial analysis, accounts receivables, accounts payables, intra-governmental, and flux analysis.
- Improved Center-to-Center Reconciliations—NASA instituted a process to reconcile and resolve differences with transactions between NASA Centers.
- Completed Employee Receivables Review—NASA completed a review of employee receivables to determine the root causes and potential solutions to reducing outstanding employee receivables and minimizing creation of new employee receivables. Based on

the results of NASA's corrective actions, we noted progress in the accounting for and reporting of accounts receivable.

- Updated Financial Management Policies—NASA published updated guidance in its Financial Management Requirements (FMR) in the following areas: Accounts Receivable, Environmental Liabilities, PP&E, Labor Distribution, Budgeting, Travel, and Journal Voucher Preparation and Approval.
- Completed Reorganization Plan for Headquarters Office of the Chief Financial Officer (OCFO)—The plan identifies staffing shortages (within headcount guidelines) and provides NASA with the information needed to continue the Headquarters' hiring strategy.
- Established Budget Execution Performance Goals and Analysis—NASA developed goals for monthly obligations and costs that permit Agency leadership to evaluate how well the Agency is executing its budget throughout the fiscal year. Additionally, NASA developed and implemented monthly analyses to determine how well NASA is executing against its established budgets.

However, through the end of FY 2007, NASA management's review and the results of our audit procedures continued to identify weaknesses in entity-wide internal control, which impaired NASA's ability to report accurate financial information on a timely basis. In many cases the progress noted above and related processes continued to be developed in FY 2007 and will require additional refinements in FY 2008.

Routine Reconciliation, Analyses, and Oversight Processes

During FY 2007, NASA implemented significant improvements in its reconciliation, analyses, and oversight processes. We noted that many of the improvements were not implemented until late in the year and management has indicated that other actions will not be completed until FY 2008. As this progress is institutionalized and the functioning of these processes mature, the effects of these improvements hold promise in helping provide NASA the ability to report accurate financial information in a timely fashion.

Financial Statement Preparation Processes

Our review of NASA's financial statement preparation process identified certain issues impacting NASA's ability to effectively accumulate, assemble, and analyze information to timely develop its financial statements on a routine and recurring basis. Currently, although processes continue to be improved, data integrity issues and evolving account reconciliation, periodic analysis, and financial statement closing processes continue to provide challenges in the timely development of auditable financial statements. The following represent issues identified during the financial statement preparation process:

- Accelerated Financial Reporting—The requirement that each agency submit its Agency Financial Report (AFR) by November 15 has created challenges for all agencies. The completed AFR for NASA was not available until October 30, 2007, which did not provide sufficient time to meet deadlines for completion of the audit, review, and submission processes. Many agencies have accelerated their AFR process by providing data to be included in the MD&A and other information as of an earlier date, and holding only very limited sections open for updates of information. Further, for both interim and year-end financial statements, certain analyses were not performed by Headquarters OCFO until after the financial statements were submitted for audit purposes, suggesting that review processes may not be fully effective.

- Accounting For Intra-governmental Reporting—For the third quarter financial statements, NASA had attempted to confirm but was unable to reconcile all of its intra-governmental balances with its trading partners. Our review of the Treasury difference report identified over $700 million for which NASA could not substantiate the reasons for differences with its trading partners.

- Quarterly Fluctuation Analyses—Although NASA had indicated that it performed, and upper management had reviewed, its quarterly fluctuation analyses of its financial information to identify unusual balances, our review of NASA's analysis of its September 30, 2007 financial statements identified inconsistencies, which required further explanation.

- Financial Statement Accrual Processes—We noted that adequate documentation to support certain transactions or disclosures were not readily available. Our testing of transactions and disclosures identified several items where we did not receive sufficient information to determine if the transaction was valid or the disclosure was appropriately supported. For example, NASA could not provide documentation to support its assertion that certain accruals were either not necessary to be recorded in its financial statements or accruals that were recorded as of September 30, 2007, could be substantiated. For example, during the fourth quarter, NASA management asserted that a grant accrual was unnecessary due to immateriality even though conflicting information from its grant processor indicated that the amount could be material. Management developed a paper explaining its view; however, it had not resolved issues with its grant processor as of October 30, 2007. Additionally, as part of the explanation, management indicated that grantees had accelerated their billings, drawing down funds for the month of September no later than September 15, 2007; however, we were unable to assess the effectiveness of this process, and whether grantees and contractors accelerated all billings for services rendered through September 30. To the extent such processes are not consistent with Federal Acquisition Regulations (FAR) or cost principles associated with execution of grants, it is possible that grantees and contractors would not have advance billed NASA for services that they would normally have drawn down funds for, or invoiced for in late October or November. Depending on the results seen by NASA in the beginning of FY 2008 through a review of subsequent grantee reports of expenditures, it may be possible to modify this approach to incorporate an estimate for any remaining necessary accrual.

Recommendation

We recommend that NASA continue to develop and refine its financial management systems and processes to improve its financial statement preparation process. Specifically, we recommend that NASA:

1. Continue to improve its financial reporting and internal quality review procedures to reasonably assure that information presented in the interim financial statements and Agency Financial Report are accurate, fully supported, and completed timely and consistent with the requirements of OMB Circular A-136, *Financial Reporting Requirements*, including rigorous use of checklists and enhanced supervisory review processes. Additionally, data analysis efforts should be completed earlier in the year to ensure year-end financial statement processes are expedited allowing sufficient time for reviews by upper management of the financial statements and supporting documentation. Mock runs of the complete year end financial statement preparation process during the third quarter are suggested to ensure processes, including the development and a historical "look-back" of accruals, are in place, documentation is available, and personnel are aware of their responsibilities to meet OMB deadlines.
2. Continue to enhance its procedures related to confirming intra-governmental balances with its trading partners so that significant differences identified through the Treasury quarterly process do not exist. NASA should be proactive when confirming transactions and balances with non-responsive trading partners. Working with OMB is necessary to get differences resolved timely.
3. Strive to stabilize data in its Core Financial Module, making sure that significant non-routine adjustments, related to data integrity, are not required especially during the last two quarters of FY 2008 and going forward. Additionally, NASA should continue to validate its data; and when issues are identified, complete service requests related to data integrity and configuration and design issues timely.
4. Continue to devise short-term and long-term resolutions to systematic and integration issues that complicate use of the IEMP. NASA should continue to assess whether systems used to prepare the financial statements have been sufficiently tested prior to year-end reporting dates.
5. Continue to focus on filling vacancies within the financial management organization to enhance overall performance and develop a core team of highly qualified individuals with experience in NASA's financial management processes.
6. Continue to offer updated guidance and training to personnel to ensure specific guidelines are documented as to the source of data to support the periodic monitoring submissions and the financial statements, required follow-up with timetables, and documentation retention policies. Further, training should be provided to Center and Headquarters personnel to ensure a complete understanding of the financial management system and reports that are available to perform certain tasks.

Periodic Monitoring Package Submission

As reported in FY 2006, NASA management has developed an entity-wide structure for routine reconciliation, analyses, and oversight processes. The periodic monitoring package, a monthly process performed at the Centers and forwarded to Headquarters, is designed to identify issues impacting the integrity of the Centers' financial management information and provides a means for communication and tracking of the issues centrally within the Headquarters OCFO. Each analysis is required to include a coversheet depicting the preparer's and reviewer's sign off, whether exceptions exist, and what the exceptions are.

Throughout FY 2007, NASA management continued to refine its process by accelerating certain steps to support its financial statement preparation process, issuing more detailed guidance and providing more training to personnel in the Centers to ensure consistency within NASA. Our review of these submissions and the related support maintained at the Centers identified progress at the Centers in identifying issues, including system configuration concerns, continuing data integrity issues—dating back prior to the system conversion in 2003, and other issues requiring immediate attention by NASA management. However, our review of these packages also identified certain weaknesses in processes that could impair NASA's ability to correct material errors in a timely fashion and report reliable information in its financial statements. Specific concerns are as follows:

- Inconsistency in Summaries and Supporting Documentation—During our review of the high level summaries attached to each monitoring package, we noted that in certain cases, although the summary would indicate no exceptions, the supporting documentation would either identify exceptions that were not reported to Headquarters or the Center had not completed the step by the time the submission was forwarded to Headquarters. For example, we noted one Center had not completed its fund balance with Treasury reconciliation, but still reported no exceptions.
- Untimely Resolution of Issues—We noted certain issues within the Centers' submissions that had been identified for several months but had not been resolved in a timely fashion. Per discussions with Center management, in most cases, the issues had been forwarded to Headquarters either with a service request or the need for Headquarters guidance, but the Center was awaiting guidance. NASA Headquarters management indicated that many of the issues are currently being tracked through service requests and expected resolution to occur in the coming months.
- Lack of Approval Sign-Off—In certain cases, we noted that appropriate reviewer sign off was not included in the documentation provided by the Center.
- Insufficient Quality Control Procedures—During FY 2007, we noted that although updated guidance was issued and training had taken place for Center personnel, Headquarters management had not implemented a routine process to perform a quality review of the procedures performed. Management has indicated that this process supports many of the adjustments recorded during the financial statement preparation process; therefore, the quality of the process is critically important.

- Lack of Noted Corrective Actions for Issues Noted—In many cases, we noted that a corrective action to resolve exceptions was not included on the summary. These corrective actions should include the name of the individual who would be responsible for ensuring resolution, the actions to be taken, and an estimate of time expected in resolving the issue. During FY 2007, NASA management implemented enhanced procedures to include corrective actions on its summaries.
- Further Guidance Needed—During our review of the June and September 2007 periodic monitoring packages submitted by the Centers, we noted continued confusion on how certain procedures should be performed. For example, we noted a Center had not performed a step and indicated that the step should be performed by Headquarters. Another Center indicated that it either could not perform certain steps due to lack of access to needed reports or lack of guidance by Headquarters. A third Center indicated that a report required by guidance from Headquarters could not be used due to data integrity issues.

Recommendation

We recommend that NASA Headquarters and Center OCFOs:

1. Continue to strengthen controls related to its entity-wide structure for account reconciliation, analyses, and oversight by providing more in-depth, on-site quality reviews of Center and Headquarters financial functions, provide further guidance and training of new policies and procedures, periodically requesting the supporting documentation to compare to the results communicated, and improve communication so that issues may be resolved in a more timely manner.
2. Continue to offer updated guidance and training to personnel to ensure specific guidelines are documented as to the source of data to support the periodic monitoring submissions and the financial statements, required follow-up with timetables, and documentation retention policies. Further, training should be provided to Center and Headquarters personnel to ensure a complete understanding of the financial management system and reports that are available to perform certain tasks.

Efforts Needed to Resolve Data Integrity Concerns

During FY 2007, NASA continued to address its data integrity issues through "cleanup efforts" that took place throughout the year and as part of the FY 2007 financial statement closing process. Many of these efforts related to issues dating back as early as 2002. Although much progress was seen during FY 2007, our testing and NASA management continues to identify similar issues. Specific concerns noted include the following:

- Ongoing Data Integrity Efforts—NASA management was unable to complete its efforts to resolve certain data integrity efforts and stabilize its systems prior to the fourth quarter. For example, we were informed on October 25, 2007, that an additional prior period

adjustment was identified and required a restatement of $139 million related to property balances. Throughout FY 2007 and as part of its annual financial statement process, NASA management recorded thousands of entries to resolve data integrity issues within its financial statements. We were unable to gain sufficient assurance through our testing that controls were in place throughout the year, that "cleanup" of significant data issues was completed, and that balances at September 30, 2007 were fairly stated.

- Enhanced Internal Control Needed for Non-routine Journal Entries—During FY 2007, NASA management recorded thousands of non-routine entries totaling more than several hundred billion dollars at the Centers, the Competency Center, and at the Headquarters OCFO. Many of these entries related to efforts to resolve data integrity issues—some required entries between proprietary, budgetary, and memorandum accounts; correction of errors and mistakes of previously posted entries; or performance of adjusting entries related to the financial statement preparation process. During our review of the non-routine entries, we noted no formal policies and procedures were available. Additionally, we noted that documentation was not always available to support the purpose of the entries, the cause, and at what level the entry was approved. Finally, we noted that enhanced monitoring by the Headquarters OCFO is needed to ensure that journal entry activity is properly approved and appropriate. For example:
  - We noted several instances where entries were being performed at the Center level, and Headquarters OCFO subsequently noted errors in the entries requiring adjusting entries during the quarterly close process. In one case, we noted one Center had recorded an entry that posted the debit to the budgetary trial balance and the credit to the proprietary trial balance. Headquarters OCFO identified the mistake through its quarterly analytical tools and corrected it. The entry should have been disapproved at the approval point or through a system edit, since split entries between budgetary and proprietary are not proper.
  - Another example related to postings of thousands of entries to resolve issues related to closed appropriations that were recorded as part of management's data integrity cleanup efforts. NASA management was unable to readily provide documentation to support the journal entries, as it was not compiled until after we had asked for it.
  - Additionally, when we inquired about certain non-routine entries identified in NASA's financial system, Headquarters OCFO could not locate the entries within the system nor provide documentation to support the purpose of the entries. Headquarters OCFO was unable to locate the entries within the system that were identified as part of our journal entry analysis, but NASA's Competency Center was able to access the entries.
  - Finally, we noted that certain entries recorded through the quarterly financial statement preparation process were not fully supported by the Centers' periodic monitoring controls process. Although the Center performs research to identify issues during the monthly periodic monitoring process and reports it to Headquarters, the summation of the Centers' identified weaknesses from the periodic monitoring controls did not agree to the adjustment posted by Headquarters OCFO.

On October 24, 2007, NASA management issued guidance—Financial Management Requirements, Volume 6, Chapter 11, *Journal Voucher Preparation and Approval*, dated October 2007—related to the preparation and execution of journal vouchers. Management indicated that this should enhance internal controls related to non-routine journal entries.

- Delayed Grant and Contract Close-outs—As reported in the past, we noted numerous grants and contracts, that had periods of performance ending prior to FY 2007, which had not officially been closed due to limited resources available for follow-up of missing or incomplete documentation from the vendor/grantee and a significant backlog of amounts awaiting de-obligation. For several years, NASA has utilized an outside contractor to resolve the large backlog. For grants, because of the delay of close-out within the grant system and anomalies in how grant drawdowns are distributed, activity costs of current grants were being posted as current expense against the expired grant obligation. As of September 30, 2007, we noted over 4,000 grants with outstanding undelivered orders of approximately $140 million, and over 4,000 contracts with outstanding undelivered orders of approximately $365 million that were past their period of performance and still awaiting closeout and de-obligation. Further, we noted several grant and contract sample items where requested supporting documentation was not available or not part of the official file.

- Limited Monitoring of Undelivered Orders and Accounts Payable—Although the periodic monitoring package includes a quarterly step to review unliquidated obligations and accounts payable, and management developed an aging report in FY 2007 to ensure balances recorded in NASA's financial system are valid and supportable, we continue to note numerous unliquidated obligations and accounts payable that were greater than one year old. Many of these items relate to travel where travelers have not submitted their vouchers in a timely fashion or residual balances exist from vouchers that have been filed.

- Periodic Monitoring Packages Identify Continued Issues—During our reviews of the Centers' periodic monitoring packages throughout the year, we noted numerous entries from the Centers where data integrity issues still required assistance from Headquarters or the Competency Center to resolve identified issues. For example, certain Center personnel continue to identify abnormal balances within the financial accounting system. As of September 30, 2007, 37 service requests existed to resolve issues identified through the periodic monitoring package submissions.

Recommendation

We recommend that NASA continue to develop and refine its financial management systems and processes to improve its accounting, analysis, and oversight of financial management activity. Specifically, we recommend that NASA:

1. Continue to strengthen controls related to its entity-wide structure for account reconciliation, analyses, and oversight (periodic monitoring package) by providing more

in-depth on-site quality reviews of Center and Headquarters financial functions, providing further guidance and training of new policies and procedures, periodically requesting the supporting documentation to compare to the results communicated, and improving communication so that issues may be resolved in a more timely manner.

2. Enhance internal control surrounding manual non-routine entries, including requiring a log of all manual entries and preparing documentation that is readily available to support the entry and the approval by upper management.
3. Strive to stabilize data in its Core Financial Module, making sure that significant non-routine adjustments, related to data integrity, are not required especially during the last two quarters of FY 2008 and going forward. Additionally, NASA should continue to validate its data, and when issues are identified, complete service requests related to data integrity and configuration and design issues timely.
4. Continue to improve its process to more timely close expired travel, grants, and contracts. Determine if accruals are necessary for potential disallowed costs and final invoices once close-out has occurred. For ongoing contracts and grants, more completely assess the need for an accrual at each reporting period.
5. Continue to devise short-term and long-term resolutions to systematic and integration issues that complicate use of the IEMP.
6. Continue to focus on filling vacancies within the financial management organization to enhance overall performance and develop a core team of highly qualified individuals with experience in NASA's financial management processes.
7. Continue to offer updated guidance and training to personnel to ensure specific guidelines are documented as to the source of data to support the periodic monitoring submissions and the financial statements, required follow-up with timetables, and documentation retention policies. Further, training should be provided to Center and Headquarters personnel to ensure a complete understanding of the financial management system and reports that are available to perform certain tasks.

Processes in Estimating NASA's Environmental Liability Continue to Require Enhancement

During our review of NASA's environmental liability estimated at $907 million as of September 30, 2007, and related disclosures to the financial statements, we noted continued weaknesses in NASA's ability to generate an auditable estimate of its environmental cleanup costs, including its unfunded environmental liability (UEL) estimate. Specifically,

- No formalized process is in place to ensure federal accounting requirements are reviewed for environmental matters so that NASA's own policies, procedures, guidance, and training are updated in a timely manner. During our FY 2007 audit we continued to note that NASA does not have a process and controls surrounding how it identifies and estimates environmental cleanup costs in accordance with Statement of Federal Financial Accounting Standards (SFFAS) No. 6, *Accounting for Property, Plant, and Equipment.*

- NASA management's review of the UEL estimate is not functioning adequately to identify inconsistencies or mistakes.
- NASA does not have a documented software assurance program or software verification and validation (V&V) for the Integrated Data Evaluation & Analysis Library (IDEAL) software it uses to estimate its environmental cleanup costs. In addition, NASA has not established formal controls and documented audit trails between itself and its third-party service provider or with its internal users who have the ability to modify key parameters within the IDEAL.

The following sections describe each bullet in more detail.

Weaknesses Noted in NASA's Process for Assessing Financial Requirements for Environmental Cleanup Matters and Providing Adequate and Timely Guidance to its Centers/Facilities

During the audit, we noted PP&E did not have environmental cleanup costs or decommissioning costs estimated in accordance with SFFAS No. 6. For example, there are no costs estimated for the cleanup of treatment systems and oxidizers, building components that will require cleanup upon closure (e.g., non-friable asbestos), and laboratories. While NASA has begun reviewing some of the specific examples provided in previous audits (e.g., storage tanks), the agency needs to identify and address all PP&E that could potentially be impacted by this standard (e.g., buildings, equipment, regulated units).

As this requirement affects a large percentage of NASA's PP&E (including the Space Shuttle program), it is unknown as to the potential cost impact to the agency. While NASA indicated that some of these costs are likely to be immaterial, it did not provide any documentation to support its position.

NASA has indicated that it will assess this issue by September 30, 2008, and make the appropriate changes. While this is intended to address the specific issue with SFFAS No. 6, we are concerned that NASA's lack of process for identifying the appropriate accounting regulations as they apply to environmental matters may allow additional omissions.

Issues Continue to be Identified in the Design and Implementation of Internal Controls Surrounding Environmental Cleanup Costs

During our FY 2007 audit we noted continued weaknesses in NASA's controls in developing UEL estimates. For example:

- *Continued confusion over the definition and classification of contingent liabilities:* We noted continued confusion over the definition and classification of contingent liabilities. For example, during its annual Remedial Project Managers (RPM) training, NASA indicated that "probable" and "estimable" liabilities are not contingent liabilities when in fact under the federal accounting standards, the entire UEL is a contingent liability.

During our fieldwork, we noted documentation that indicated that since portions of an estimate were "contingent liabilities," they should be removed from the UEL estimate. In addition, at three Center/facilities we noted that the "reasonably possible" liabilities were listed as the only contingent liabilities at that location.

- *Limited quality reviews by Center CFOs of RPM estimates:* Historically, the Headquarters OCFO indicated that it lacked sufficient environmental skills to review the UEL estimates. While we agree with OCFO with respect to the environmental technical review, we would anticipate that they would review the estimates for appropriateness with GAAP and with its own "Review and Verification" checklist. During our fieldwork, we noted that the OCFO selected a statistical sample of UEL estimates to review and it developed a checklist to standardize its review. The checklist primarily focused on the adequacy of documentation and did not include questions that would help the Center and Headquarters OCFO assess the appropriateness of the estimate with GAAP (e.g., explanation of changes, probable versus reasonably possible, full-cost accounting, the use of better information when available). In addition, while the OCFO checklist focused on documentation, we noted that documentation was not always readily available to support the estimate and that some documentation was inconsistent with GAAP (e.g., notations that an item was a "contingent liability" and that it should be removed from the UEL). In addition, as NASA indicated that the printed IDEAL reports should not be relied upon for audit testing, and the Center OCFOs do not have access to IDEAL, it is unclear as to how the Center OCFOs can conduct an effective review.
- *Inadequate financial guidance:* During our review we noted that NASA's financial guidance to its field personnel required enhancements. For example, for NASA's full cost accounting: we were informed that NASA's Financial Management Requirements (FMRs), as they apply to full cost accounting, are out of date. The current guidance is in a Microsoft PowerPoint presentation that has not been translated to a volume of the FMR.
- *Informal EMD advocate reviews:* While the Environmental Management Division (EMD) advocates performing a 100% review of the UEL estimates for technical matters, this review is informal and does not include formal analysis of year-to-year changes and a review of the support for key inputs, an assessment of the reason for overriding errors and warnings in IDEAL, and a review of key input support. During our fieldwork we noted that:
    - The Kennedy Space Center identified and recorded a $55.9 million cost estimate for pumping and treating groundwater, when a better estimate of $112.4 million was supported by a study that NASA had submitted to the Florida Department of Environmental Protection. This was $56.5 million more than what NASA had estimated using its parametric estimating software. NASA recorded the adjustment once we brought the adjustment to Headquarters OCFO's attention.
    - The White Sands facility could not readily reconcile the reasons for the changes in its current estimate compared to last year for all of its projects during our site visit.

- Warning and error messages in the estimating software (IDEAL) were overridden with no supporting documentation or notations as to the reason for approving the override.

IDEAL Software Assurance, Controls, and Audit Trails

NASA uses the IDEAL cost-estimating software to estimate its UEL and its related costs in its financial statements and disclosures. The IDEAL software provides NASA with several capabilities, including: (a) the ability to generate estimates using a parametric cost-estimating approach when better information is not available, (b) the ability to aggregate cost data, and (c) the ability to apply uniform markups and contingencies to UEL estimates.

IDEAL operates in a client/server environment. The server resides at a third-party service provider location where it is maintained and updated. NASA's users enter data in their local computers with the option to modify key parameters in the IDEAL host application through the "User Defined Interface," or UDI, prior to processing. After the data is processed by IDEAL, the system returns the results for viewing either electronically or through printed reports.

During our review of IDEAL, we noted the following:

- Software Assurance Program: There is no software assurance program, including a software V&V, for IDEAL. As such, there is no support for determining whether IDEAL is generating a reasonable estimate.
- Security Plan: NASA has not formalized its minimum-security plan for the application.
- Service Provider Controls: There are no formal, documented controls between NASA and its IDEAL service provider. Therefore, as the host application is updated based on improvements to the model, the estimates can change without documented audit trails.
- Software Controls: There are no controls associated with the UDI. Therefore, users can modify the parametric equations within IDEAL and the system's error and warning messages without detection, as there are no controls and the application does not generate an audit trail.
- Inadequate Audit Trails and Documentation: NASA has indicated that the printed reports generated by IDEAL should not be relied upon for audit testing. As NASA does not have formal controls over the host application and the printed reports are not to be relied upon, there are inadequate audit trails and documentation to support historic transactions.

Recommendation

As it relates to the estimation of environmental liabilities, we recommend that NASA:

1. Finalize work plans and implement internal control and monitoring processes to ensure compliance with requirements within SFFAS No. 6, *Accounting for Property, Plant, and Equipment*, related to decommissioning costs.
2. Designate a lead team, inclusive of members from the Centers, EMD, and OCFO, for performing self-assessments and monitoring of the implementation and adherence to financial policies and requirements as they relate to environmental activities. This should include self-assessments of the UEL estimation and aggregation process to identify and correct remaining weaknesses in the UEL process.
3. Consistent with NASA estimating its UEL liability at mid-year and then updating it at the end of the year for significant changes, we recommend that NASA perform the remainder of its environmental activities using the same timeline (e.g., estimate reasonably possible estimates and disclosures at mid-year and update at the end of year). This will allow adequate time for an effective review.
4. Complete verification and validation assessments of the IDEAL program including an assessment of security and controls over the application.
5. Develop a process to ensure consistent year-to-year audit trails and documentation supporting judgments made in calculating the UELs.
6. Continue to offer updated guidance and training to personnel involved in the estimation of environmental liabilities.

Financial Management Systems Not in Substantial Compliance with FFMIA

NASA's financial management systems are not substantially compliant with the Federal Financial Management Improvement Act (FFMIA) of 1996. During FY 2007, as discussed above, NASA management took steps to address its noncompliance with the FFMIA, including upgrading its Core Financial Module. Although these steps corrected certain weaknesses noted during the past four years, other weaknesses still exist. For example, NASA's Core Financial Module still lacks integration with certain subsidiary systems, including PP&E, has certain weaknesses within its general and application security controls, and contains configuration issues that result in inappropriate transactional postings. Additionally, the financial management system continues to impair NASA's and the Centers' abilities to adequately support and analyze account balances reported. Specific weaknesses noted include the following:

- Certain subsidiary systems, including all property systems (i.e., NEMS, NRPDB, and CHATS), are not integrated with the Core Financial Module and are not complemented by sufficient manual preventative and detective controls.
- NASA's management continued to identify certain transactions that are being posted incorrectly due to improper configuration or design within the Core Financial Module. As of September 30, 2007, NASA management identified 37 service requests awaiting completion to address certain issues within its Core Financial Module. Additionally, during our review of the Centers' periodic monitoring packages, the Centers identified

abnormal balances within the general ledger, including differences between the financial information (FI) module and the funds management (FM) module, both residing within the IEMP. These discrepancies existed due to journal entries not being properly mapped to both modules when posted. Finally, during our review of journal entries within the Core Financial Module, we noted certain data element fields were either missing information or the information was inaccurate. For example, in some cases, we noted that NASA had not included the fund type, business area, purchase order, or vendor within the system for certain entries.

- NASA was unable to meet certain requirements to ensure compliance with federal accounting standards, as discussed in various sections within this report.
- The Office of Inspector General of NASA (OIG) identified certain issues related to systems as part of its Federal Information Security Management Act (FISMA) and other OIG projects.

NASA has indicated in its assurance statement that it believes its systems are non-compliant with requirements of the FMFIA. NASA believes that planned corrective actions for FY 2008 will address many of the remaining issues.

Recommendation

We recommend that NASA:

1. Continue to resolve issues identified in the general and application controls surrounding its financial management systems. Additionally, we recommend that NASA continue to ensure that its compensating controls surrounding its integration of systems and segregation of duties issues are operating effectively to prevent, or detect and correct errors. NASA should monitor that its internal control activities, including periodic reconciliations and analysis, are performed to ensure that further data issues do not lead to difficulties in processing transactions and preparing accurate reports in the months and possibly the years to come.
2. Continue to devise short-term and long-term resolutions to systematic and integration issues that complicate use of the IEMP. NASA should continue to assess whether systems used to prepare the financial statements have been sufficiently tested prior to year-end reporting dates.
3. Continue to resolve issues, as discussed throughout this report, which impair NASA's ability to meet the requirements of the FFMIA.

Weaknesses in Information Technology General and Application Controls

Issues related to access controls and segregation of duties were noted within the IEMP environment. The level of risk associated with these information technology issues depends in part upon the extent to which financial-related compensating controls (such as reconciliations

and data integrity reviews of output) are in place and operating effectively throughout the audit period. Certain of these controls designed to detect errors or inappropriate processing may also not be executed in a manner that can be expected to identify errors, which, while perhaps not material to the financial statements as a whole, may subject NASA to risks regarding safeguarding of assets.

Within the context of the overall weaknesses identified in the control environment referenced in the accompanying comments and although NASA has made progress in addressing and resolving prior year information technology findings, these information technology-related issues, along with issues noted by Ernst & Young, Government Accountability Office (GAO) and NASA OIG in their review of the SAP Version Update (SVU) project merit continued management focus.

Recommendation

We recommend that NASA continue to resolve issues identified in the general and application controls surrounding its financial management systems. Additionally, we recommend that NASA continue to ensure that its compensating controls surrounding its integration of systems and segregation of duties issues are operating effectively to prevent, or detect and correct errors. NASA should monitor that its internal control activities, including periodic reconciliations and analysis, are performed to ensure that further data issues do not lead to difficulties in processing transactions and preparing accurate reports in the months and possibly the years to come.

Enhancements Needed for Controls over PP&E and Materials (Modified Repeat Condition)

Consistent with prior year audit reports, our review of PP&E identified serious weaknesses in internal control that, if not corrected, could prevent material misstatements from being detected and corrected in a timely manner. As stated in the prior years audit reports, NASA's process for recognizing and accounting for fixed assets relied primarily on a retrospective review of disbursements to determine amounts that should be capitalized and continues to be heavily dependent on activities at its contractors to recognize any assets created at its contractors. Also, NASA's lack of integrated and comprehensive property systems limits it ability to record, track, and monitor property and property-related transactions as they occur throughout the entire property transaction life cycle. Furthermore, NASA's monitoring and detect control procedures at the OCFO, the Center finance office, and beyond need further strengthening.

During fiscal year 2007, we noted that NASA continues to work toward resolving issues identified in the past related to PP&E. Highlights of those improvements from NASA management's perspective include:

- The development of a new capitalization policy for PP&E to recognize the research and development nature of NASA's projects. This new policy that will be implemented in FY 2008 is planned to allow NASA to assess which projects will result in capitalized items.

- Revisions to business processes to identify capital acquisitions at the beginning of the acquisitions life cycle through disposition by the use of a unique work-breakdown-structure (WBS) element. The revised business processes to be implemented in FY 2008 is scheduled to allow NASA to identify and track capital acquisitions from requisition through costing process.
- The development of a mechanism to identify capital acquisitions at project inception through the use of *NASA Form (NF) 1739, Alternative Future Use Questionnaire*, to be implemented as part of the new PP&E capitalization policy. The NF 1739 is intended to facilitate the identification of capital assets at the inception of a project.
- Revisions to contractor cost reporting requirements (i.e., NF 533) to establish a one-to-one relationship for reporting costs of capital assets. The revised NF 533 reporting is planned to facilitate recording costs for capital asset acquisitions on a unique WBS element and will be implemented in FY 2008.
- Coordination with the Integrated Asset Management (IAM) Development Team to ensure all business process changes were integrated in the development of asset management functionality in the core financial system to be released sometime in FY 2008. IAM is scheduled to automate real time asset accounting and is planned to enable tracking asset values at the individual asset level. IAM is also intended to provide a linkage between equipment master records with the financial asset master record.
- Extensive training provided to NASA communities and contractors impacted by new PP&E policy and process changes during the third quarter of FY 2007.
- Revisions were made in November 2006 to the FMR PP&E Chapter to establish the requirement for supervisory review and sign-off of journal vouchers prior to their posting in the Core Financial Module, and revisions to the Property Checklist to include the communication requirement and due dates for Headquarters OCFO to provide correspondence to the Centers.

Pending completion of draft policies, procedure changes and the implementation and acceptance of these, as well as property-system enhancements (i.e., IAM), further emphasis on internal and external control processes at Headquarters, the Centers, and the contractor locations is needed to ensure that property-related amounts reported in its financial statements are reliable and complete.

While NASA has undertaken efforts to improve its accountability of property, we continued to note evidence of significant weaknesses in the property area. The weaknesses we noted during FY 2007, most of which are consistent with last year's audit report, fundamentally flow from not previously determining at the point of budget formulation, obligation recognition, contract development, accounts payable recognition, or disbursement the amounts of property NASA expects to buy, has contracted for, or has purchased. Rather, NASA, throughout 2007, waited until the entire transaction cycle was complete to obtain disbursement data for capitalization or, in the case of contractors, relied on them to do so. Also NASA's property systems are not integrated with the Core Financial Module. Furthermore, NASA has not demonstrated how it

will ensure the completeness and accuracy of its property balances recorded prior to the implementation of its new policies and procedures. Insufficient internal controls and other matters surrounding (1) Space Exploration Equipment, specifically related to Contractor-Held PP&E; (2) Space Exploration Equipment, including the International Space Station and Shuttle (*formerly NASA-Held Theme Assets*); and (3) General PP&E (*formerly NASA-Held Real and Personal Property*) are addressed in more detail below:

(1) Space Exploration Equipment related to Contractor-Held PP&E *(formerly Contractor-Held PP&E)*

The reliance upon NASA's contractors to report property values at periodic intervals during the year without robust agency-wide detect controls to ensure the reliability and validity of those property values may increase the probability of errors and deficiencies not being detected by NASA or reported by contractors. Throughout the year, the Headquarters OCFO's Property Branch personnel and Centers' Property Accountants perform certain high-level analytical analyses and monitoring procedures of property balances and transactions reported by NASA's largest contractors that report monthly in the Contractor-Held Asset Tracking System (CHATS). This monitoring process, however, still lacks a full integration of NASA's procurement and scientific community, with whom contractor accountability primarily resides, and does not include reconciliations to the costs being incurred by these contractors via the monthly NF 533 reporting process to the property balances reported monthly in CHATS and annually via the NF 1018. The subsequent review and dependence on contractor reporting increases the risk that related costs will not be properly captured and capitalized. Furthermore, since CHATS is not integrated with NASA Core Financial Module, each month management records the property-related activity reported by the contractors via a manual journal voucher process.

For the past several years, the Headquarters OCFO has utilized the Defense Contract Audit Agency (DCAA) as its primary quality assurance mechanism over NASA's contractors by performing agreed-upon procedures on a sample of the June 30, 2007 property balances and a sample of FY 2007 transactions. The most significant finding reported by DCAA this fiscal year was that the value of one contractor's Work in Process (WIP) balances as of June 30, 2007, was understated by $928 million due to several factors, including the incorrect use of unit costs, finished goods and materials not including a 15% fee, and incorrect unit costs reported on property transferred to another contractor. There were also other nominal dollar errors reported by DCAA, as well as differences noted between CHATS and the contractors' property systems and evidence of failures to adhere to required policies and procedures to report corrections timely to NASA personnel. Although the Headquarters OCFO utilizes the DCAA as its primary quality assurance mechanism over NASA's contractors, the procedures that DCAA performed cannot be relied upon by NASA management alone to ensure the reliability and validity of contractor-held property values.

Consistent with prior year audit reports, NASA has not performed reconciliations to the costs being incurred by its contractors via the NF 533 reporting process to the property balances reported monthly in CHATS and annually via the NF 1018 in the current fiscal year. The NF

533 cost reports and/or invoices submitted by contractors do not require the portion of the costs that relate to the purchase of an asset and operating materials and supplies to be specifically identified. NASA has revised, but not yet implemented, new contractor cost reporting requirements to establish a one-to-one relationship for reporting costs of capitalized property in order to facilitate the recording of costs for capitalized property acquisitions on a unique WBS element level within SAP. Also, as previously mentioned elsewhere in this report, management has revised its PP&E capitalization policy for new acquisitions to identify costs that need to be capitalized starting at the budget/procurement cycle through to the processing and disbursing of funds as the transaction is processed. However, it is unclear as of yet how the alignment and the specificity of the WBS elements will correlate to the accounting for the contractor's costs under the authoritative literature on property-related transactions. Also, NASA management has not yet demonstrated how the new contractor cost reporting requirements and PP&E capitalization policy, when fully operational, will provide sufficient specificity in NASA's purchasing activity to facilitate tracking and reporting of all types of property-related transactions as projects are initiated and disbursements are made. Until NASA successfully implements these new policies and procedures, NASA will continue to experience difficulties in recording property-related balances and transactions and ensuring their completeness. Furthermore, NASA has not demonstrated how it will ensure the completeness and accuracy of its property balances recorded prior to the implementation of its new policies and procedures.

Management's processes at NASA Headquarters to accumulate, calculate, and record transactions related to the depreciation on Space Exploration Equipment maintained by contractors are heavily reliant upon Excel spreadsheets, which can be subject to input or formulaic errors and are not complemented with robust controls to prevent and detect such errors from occurring. We again noted errors during our review of these schedules during the current fiscal year, which management subsequently corrected. Although NASA management is currently developing an automated depreciation tool, additional controls are needed immediately to prevent these errors from recurring, with a longer-term goal to develop more comprehensive oversight controls once the tool is implemented.

Recommendation

We recommend that NASA:

1. Develop more robust detect and monitoring controls beyond the high-level monthly validation procedures performed by NASA Center personnel and the annual DCAA agreed upon procedures and to compensate for the lack of CHATS integration with the Core Financial Module to ensure timely detection and correction of errors as well as completeness of property-related balances and transactions reported by NASA's contractors.
2. Continue to review, monitor, and refine the implementation of its new PP&E capitalization policy to ensure its effectiveness in capturing, recording, and reporting acquisitions of new property throughout the entire transaction life cycle. Periodic reporting of NASA's progress on this matter to key stakeholders is recommended.

NASA must also clearly demonstrate that the obligation documents and expenditures are coded to identify whether they relate to a property acquisition to create a record for comparison to recorded property transactions and the CHATS subsidiary ledger. Furthermore, NASA Headquarters OCFO must involve the procurement and scientific community as a part of the post-implementation process.

3. Implement, review, monitor, and refine the revised contractor cost reporting requirements to ensure its effectiveness in capturing and reconciling all costs for capitalized property from the NF 533 reports to the monthly CHATS and annual NF 1018 property reports. NASA Headquarters OCFO must also involve the procurement and scientific community as a part of the post-implementation process.
4. Clearly demonstrate how it has ensured the completeness and accuracy of its contractor-held property balances recorded prior to the implementation of its new PP&E capitalization policy and revised contractor cost reporting requirements.
5. Illustrate how the alignment and the specificity of the WBS elements recorded in SAP will correlate to the accounting for the contractors' capitalizable costs under the authoritative accounting literature on property-related transactions, including assessing whether specific disbursements related to Research and Development (R&D) projects acquire assets that will meet the definition of general PP&E (i.e., because they can be reused).
6. Develop additional controls over the depreciation expense calculations and processes at NASA Headquarters prior to the implementation of an automated solution, with a longer-term goal to develop more comprehensive oversight controls once that automated platform is implemented.

(2) Space Exploration Equipment, including the International Space Station and Shuttle *(formerly NASA-Held Theme Assets Operational and WIP)*

As noted in prior year reports, NASA began revisiting its accounting policy for Theme Assets (now known as Space Exploration Equipment) in FY 2004 as to whether these project costs met the characteristics of general PP&E as defined in the Federal Accounting Standards Advisory Board (FASAB) Statements of Federal Financial Accounting Standards (SFFAS) No. 6, *Accounting for Property, Plant, and Equipment* or were more akin to R&D as defined in Financial Accounting Standards Board (FASB) Statement of Financial Accounting Standards (SFAS) No. 2, *Accounting for Research and Development Costs*. During FY 2006, NASA management finalized its position and sought interpretation from the Accounting and Audit Policy Committee (AAPC) of FASAB as the due course in resolving technical federal accounting matters where existing guidance was not clear. In response to NASA's request for interpretation, the AAPC issued Technical Release No. 7, *Clarification of Standards Relating to the National Aeronautics and Space Administration's Space Exploration Equipment*, on June 1, 2007. Accordingly, management acted upon the final technical ruling and recorded a $12.7 billion adjustment to write off the net book value of prior period capitalized assets that in management's belief were more properly classified as R&D and had no alternative future use.

Management concluded that this change in accounting policy was justified as *preferable* under SFFAS No. 21, *Reporting Corrections of Errors and Changes in Accounting Principles*, because the AAPC provided clarification with respect to SFAS No. 2, and thus was not required to restate prior period financial statements. In addition, management recorded an additional $1.8 billion adjustment during the fourth quarter of FY 2007 in applying this same change in accounting policy to FY 2007 activity on those theme projects designated as R&D.

After applying the change in accounting policy, management has effectively concluded that only two theme projects still met the definition of general PP&E: the International Space Station (ISS) and the Space Shuttles (Shuttle), including their ancillary equipment. As of September 30, 2007, Space Exploration Equipment, net of accumulated depreciation, is $18.5 billion. The ISS and Shuttle will continue to be operational and depreciated through FY 2016 and 2010, respectively, based upon management's estimated useful lives for these assets. However, as noted in the Space Exploration Equipment related to Contractor-Held Property, Plant & Equipment section above and as reported by the GAO over the past several years, management will continue to be challenged to appropriately capture and record related capitalizable costs to account for and reconcile NF 533 cost reports to the capitalized asset values and to ensure the completeness of the ISS and Shuttle asset balances for the foreseeable future. Management's approach to assessing which portions of the theme projects will meet the definition of general PP&E is evolving. The process used to assess the amount initially classified as R&D in connection with the change in accounting policy lacked rigor in definitively assessing whether certain equipment could be used in future R&D projects.

From an OCFO Headquarters accounting process standpoint, the manner in which NASA accumulates related costs to track and record the International Space Station and Space Shuttles is based upon Excel spreadsheets that are not integrated with NASA Core Financial Module. In addition, the OCFO Headquarters' processes to accumulate, calculate, and record transactions related to the depreciation on Space Exploration Equipment are also heavily reliant upon Excel spreadsheets, which can be subject to input or formulaic errors and are not complemented with robust controls to prevent and detect such errors from occurring. We again noted errors during our review of these schedules during the current fiscal year, which management subsequently corrected. The automated depreciation tool that NASA management is currently developing will not include the calculation of depreciation expense on the International Space Station and Shuttle. Accordingly, more comprehensive controls are needed immediately to prevent these errors from recurring.

Recommendation

We recommend that NASA:

1. Specifically cross-reference the observations and recommendations noted above for Space Exploration Equipment related to Contractor-Held Property, Plant & Equipment to the International Space Station, Shuttle, and other Space Exploration Equipment that remains in the custody of NASA's contractors. In addition to responding to the

recommendations noted in the section above, management needs to develop a detailed action plan for each type of Space Exploration Equipment, by separately addressing the ISS challenges from the Shuttle and from the other Space Exploration Equipment. NASA also needs to clearly demonstrate how it has ensured the completeness and accuracy of the ISS and Shuttle balances recorded prior to the implementation of any of its new PP&E policies, procedures, and cost reporting requirements.

2. Develop more comprehensive controls over the accounting processes and depreciation expense calculations at NASA Headquarters. The automated depreciation tool that NASA management is currently developing will not include the calculation of depreciation expense on the International Space Station and Shuttle.

(3) General PP&E *(formerly NASA-Held Real and Personal Property)*

General PP&E, net, is approximately $2.2 billion at September 30, 2007, and consists of land, structures, facilities, leasehold improvements, institutional equipment, construction-in-progress, and internal use software and development that are all NASA-held. For the current fiscal year, NASA expensed all costs (except for certain construction of NASA-held real property) and then performed a review of the transactions to determine which costs should be capitalized, similar to prior years. During our FY 2007 testing, we again noted certain property-related transactions that were not recorded at the appropriate value based upon the final amount paid to the vendor/contractor (i.e., a "three-way match" between the purchase order, shipping document, and invoice was not performed by NASA personnel), the initiation of transactions lacked evidence of written authorization or lacked required supporting third party evidence (i.e., invoices, contracts), and loaned-out equipment was inappropriately removed from NASA's general ledger. In addition, NASA management is reliant upon a monthly evaluation by Center personnel to determine which assets should be capitalized for recording these property-related transactions and also maintains separate subsidiary ledgers (NASA Equipment Management System [NEMS] and NASA Real Property Inventory [NRPI]) that are not interfaced directly with the Core Financial Module. Furthermore the current oversight procedures by Headquarters OCFO of these Center processes are not sufficient to detect and correct errors in a timely manner.

Also, as part of our FY 2007 testing, we attempted to substantiate $3.0 billion or approximately 80% of the General PP&E asset cost balances as of June 30, 2007, by vouching to third-party evidential documentation. Our sample included land, real property, work-in-process for real property, and internal use software. We found that in many instances, NASA Centers did not maintain key third-party financial records (such as invoices, contracts, and NF 533 cost reports) that could be tied directly to capitalized assets that were acquired beyond the federal general records retention policy of six years and three months, which was cited by NASA personnel. We note that the federal property record retention policy goes beyond this time frame. NASA also could not locate external evidential documentation supporting assets acquired within the general document retention period totaling $531.5 million or 72% of assets acquired by NASA in this time frame that were included in our sample. It is uncertain whether NASA Center personnel maintain any of these key financial records for this subset of assets. The result of the lack of evidential supporting documentation are further examples of management's need to place

additional emphasis on strengthening and enforcing Center-related manual prevent and detect controls that extend beyond the Headquarters OCFO and Center finance departments, as these are the baseline controls upon which NASA is reliant.

During our testing, we also identified inconsistencies, out-of-date or incomplete policies, and procedures related to PP&E in NASA's FMR. It appears that NASA management is not reviewing and updating its policies and procedures on a regular basis. The lack of accurate guidance limits NASA's ability to perform financial management processes consistently and adequately, and to identify potential misstatements in a timely fashion. In addition, during the latter part of the current fiscal year, the NASA OIG issued two memorandums related to NASA's inappropriate accounting for property leased to other non-NASA entities and property designated as "inactive." One of these issues resulted in management recording a $67 million prior period adjustment for NASA-owned real properties that had been inappropriately removed from NASA's accounting records for lease transactions with other non-NASA entities.

Also, as previously mentioned elsewhere in this report, management has revised its PP&E capitalization policy that is effective in October 2007 for new acquisitions to identify costs that need to be capitalized starting at the budget/procurement cycle through to the processing and disbursing of funds as the transaction is processed. However, it is unclear as of yet how NASA's obligation documents and expenditures will be coded to identify whether they relate to a property acquisition to compare to amounts recorded in NEMS and NRPI. Furthermore, NASA has not demonstrated how it will ensure the completeness of its property balances recorded prior to the implementation of its new PP&E capitalization policy or retain records to support its property.

Management's processes at NASA Headquarters to accumulate, calculate, and record transactions related to the depreciation on general PP&E are heavily reliant upon Excel spreadsheets, which can be subject to input or formulaic errors and are not complemented with robust controls to prevent and detect such errors from occurring. We again noted errors during our review of these schedules during the current fiscal year, which management subsequently corrected. Although NASA management is currently developing an automated depreciation tool, additional controls are needed immediately to prevent these errors from recurring, with a longer-term goal to develop more comprehensive oversight controls once the automated tool is implemented.

Recommendation

We recommend that NASA:

1. Develop more robust detect and monitoring controls beyond the high-level monthly validation procedures performed by NASA Headquarters' OCFO on the monthly property-related schedules prepared by NASA Center personnel and to compensate for the lack of NEMS and NRPI systems being integrated with the Core Financial Module to ensure timely detection and correction of errors, adherence to accounting policies and procedures, as well as the completeness of property-related balances and transactions.

Regardless of the NASA's future implementation of the Integrated Asset Management Module, management needs to layer in detect and monitoring controls on top of its routine processing and recordation of property-related transactions and also extend these control requirements to the facilities and logistics departments.

2. Continue to review, monitor, and refine the implementation of its new PP&E capitalization policy to ensure its effectiveness in capturing, recording and reporting acquisitions of new property throughout the entire transaction life cycle. Periodic reporting of NASA's progress on this matter to key stakeholders is recommended. NASA must also clearly demonstrate that the obligation documents and expenditures are coded to identify whether they relate to a property acquisition to create a record for comparison to recorded property transactions and the NEMS and NRPI subsidiary ledgers. Furthermore, NASA Headquarters OCFO must involve the procurement and scientific community as a part of the post-implementation process.
3. Clearly demonstrate how it has ensured the completeness and accuracy of its General PP&E (formerly government-held property) balances recorded prior to the implementation of its new PP&E capitalization policy.
4. Review, revise, and clarify the PP&E sections of the FMR for outdated and incomplete sections, as well as for unique and non-routine property transactions entered into by NASA, including leases to other non-NASA entities and designation of inactive properties, to ensure the appropriate application of the property-related authoritative accounting standards is incorporated and communicated to all related personnel.
5. Adopt a specific property-related retention policy to specify the types of evidential documentation (NASA Forms, Invoices, Contracts, NF 533 cost reports, supporting spreadsheets, etc.) and related time periods that such documentation should remain in the possession of NASA. Further articulation of where that documentation is retained is also paramount. Lastly, NASA should publish the property-specific retention policy and communicate it throughout the agency to ensure its consistent application.
6. Develop additional controls over the depreciation expense calculations and processes at NASA Headquarters prior to the implementation of an automated depreciation tool, with a longer-term goal to develop more comprehensive oversight controls once that automated tool is implemented.

OTHER MATTERS

Summary of FY 2006 Material Weaknesses

Issue Area	Summary Control Issue	FY 2007 Status
Material Weaknesses		
Financial Systems, Analyses, and Oversight	Internal control related to routine reconciliation, analyses, and oversight processes must be strengthened. Processes to prepare financial statements need improvement. Processes in estimating NASA's Environmental Liabilities require enhancements. Financial management systems not in substantial compliance with FFMIA. Efforts needed to resolve data integrity concerns. Certain weaknesses noted relating to general and application controls.	Modified Repeat Condition.
Enhancements Needed for Controls over Property, Plant, and Equipment and Materials	Controls relating principally to contractor-held PP&E and materials and NASA-held assets in space and WIP need improvement; Headquarters oversight needs improvement.	Modified Repeat Condition.

* * * * * * * * *

We also noted certain other matters involving internal control that we will report to NASA management in a separate letter dated November 13, 2007.

This report is intended solely for the information and use of the management and the OIG of NASA, OMB, GAO and Congress and is not intended to be and should not be used by anyone other than these specified parties.

Ernst & Young LLP

November 13, 2007
Washington, D.C.

ERNST & YOUNG

Ernst & Young LLP
1101 New York Avenue, N.W.
Washington, DC 20005-4213

Phone: (202) 327-6000
www.ey.com

Report on Compliance with Laws and Regulations

To the Administrator and the Office of Inspector General
of the National Aeronautics and Space Administration

We were engaged to audit the financial statements of the National Aeronautics and Space Administration (NASA) as of and for the year ended September 30, 2007, and have issued our report thereon dated November 13, 2007. The report states that because of the matters discussed therein, the scope of our work was not sufficient to enable us to express, and we do not express, an opinion on the consolidated balance sheet as of September 30, 2007, and the related consolidated statements of net cost and changes in net position and combined statement of budgetary resources for the fiscal year then ended.

The management of NASA is responsible for complying with laws and regulations applicable to NASA. We performed tests of its compliance with certain provisions of laws and regulations, noncompliance with which could have a direct and material effect on the determination of financial statement amounts, and certain other laws and regulations specified in Office of Management and Budget (OMB) Bulletin No. 07-04, *Audit Requirements for Federal Financial Statements*, including the requirements referred to in the Federal Financial Management Improvement Act of 1996 (FFMIA). We limited our tests of compliance to these provisions, and we did not test compliance with all laws and regulations applicable to NASA.

The results of our tests disclosed no instances of noncompliance with the laws and regulations discussed in the preceding paragraph, exclusive of FFMIA, that are required to be reported under *Government Auditing Standards* and OMB Bulletin No. 07-04.

Under FFMIA, we are required to report whether NASA's financial management systems substantially comply with federal financial management systems requirements, applicable federal accounting standards, and the United States Standard General Ledger (SGL) at the transaction level. To meet this requirement, we performed tests of compliance with FFMIA Section 803(a) requirements. However, as noted above, we were unable to complete our audit. Based upon the results of the tests we were able to complete, we noted certain instances, described below, in which NASA's financial management systems did not substantially comply with certain federal system and federal accounting standard requirements:

- The NASA accounting system does not conform to certain federal requirements. Certain subsidiary systems, including property, are not integrated with the Core Financial Module and are not complemented by sufficient manual preventative and detective controls.

- NASA's management continued to identify certain transactions that are being posted incorrectly due to improper configuration or design within the Core Financial Module. As of September 30, 2007, NASA management identified 37 service requests awaiting completion to address certain issues within its Core Financial Module. Additionally, during our review of the NASA (Centers) periodic monitoring packages, the Centers identified abnormal balances within the general ledger, including differences between the financial information (FI) module and the funds management (FM) module, both residing within the Integrated Enterprise Management Program (IEMP) system. These discrepancies existed due to journal entries not being properly mapped to both modules when posted. Finally, during our review of journal entries within the Core Financial Module, we noted certain data element fields were either missing information or the information was inaccurate. For example, in some cases, we noted that NASA had not included the fund type, business area, purchase order, or vendor number within the system for certain entries.
- Data within NASA's financial system continues to be validated and may not be reliable to support NASA's financial statements. Several prior-period adjustments were recorded in FY 2007. Additionally, data was not sufficient to support certain journal vouchers recorded within the system. Finally, certain processes, including reconciliations and monitoring activities, were not performed in a manner to address identified issues timely.
- Reviews of general and application controls over financial management systems identified certain departures from requirements specified in OMB Circular A-127, *Financial Management Systems*, and OMB Circular A-130, *Management of Federal Information Resources*. Additionally, the Office of Inspector General of NASA (OIG) identified certain issues related to systems as part of its Federal Information Security Management Act (FISMA) and other OIG projects. As part of its Federal Managers' Financial Integrity Act of 1982 (FMFIA) self-assessment, NASA management has identified its financial management system as a material weakness.
- NASA was unable to meet certain requirements to ensure compliance with federal accounting standards. For example, NASA does not have a process and controls surrounding how it identifies and estimates environmental cleanup costs in accordance with Statement of Federal Financial Accounting Standards (SFFAS) No. 6, *Accounting for Property, Plant, and Equipment*.

The Report on Internal Control and management letter include information related to the financial management systems that were found not to comply with the requirements, relevant facts pertaining to the noncompliance, and our recommendations related to the specific issues presented. It is our understanding that NASA's management generally agrees with the facts as presented and that relevant comments from NASA's management responsible for addressing the noncompliance are provided as an attachment to this report. We did not audit management's comments and accordingly, we express no opinion on it.

Because we could not complete our audit, we were unable to determine whether there were other instances of noncompliance with laws and regulations that are required to be reported.

Providing an opinion on compliance with certain provisions of laws and regulations was not an objective of our audit, and accordingly, we do not express such an opinion.

This report is intended solely for the information and use of management and the Office of Inspector General of NASA, OMB, Government Accountability Office, and Congress, and is not intended to be and should not be used by anyone other than these specified parties.

Ernst & Young LLP

November 13, 2007
Washington, D.C.

National Aeronautics and Space Administration

Headquarters
Washington, DC 20546-0001

November 14, 2007

Reply to Attn of: Office of the Chief Financial Officer

TO: Inspector General

FROM: Deputy Chief Financial Officer

SUBJECT: Management Response to Audit Report of Independent Auditors

I appreciate the efforts of the Office of Inspector General (OIG) and the independent auditors under contract to audit NASA's Fiscal Year (FY) 2007 financial statements. I understand that, due to the continued evolution of NASA's internal controls and to issues related to property accounting, the independent auditor determined that there was insufficient evidential support for the amounts presented in the Agency's financial statements. I understand this lack of evidence prevented the auditor from expressing an opinion on the consolidated balance sheets as of September 30, 2007 and 2006, the related consolidated statements of net costs and changes in net position, and the combined statements of budgetary resources for the fiscal years then ended.

The *Report on Internal Control* noted NASA's significant progress in resolving system configuration issues, updating and implementing policies and procedures, and addressing data integrity issues related to system conversion. The report also identified two modified repeat material weaknesses that continue to be challenges for the Agency: "Financial Systems, Analyses, and Oversight;" and, "Enhancements Needed for Controls over Property, Plant, and Equipment and Materials."

Throughout FY 2008, NASA will build on the progress made in FY 2007.

Terry Bowie

Terry Bowie

OTHER ACCOMPANYING INFORMATION

Performance Measures: Multi-Year Outcomes

NASA's top-level performance measures are the multi-year Outcomes. Through Annual Performance Goals (APGs), which focus on important science objectives or major program/project milestones for the performance year, the Agency determines its progress towards achieving these Outcomes. In turn, the Outcomes reflect NASA's progress towards achieving the six Strategic Goals (and six Sub-goals under Strategic Goal 3). The following are NASA's multi-year Outcomes for 2007 organized by Strategic Goal. NASA will report ratings on these Outcomes and the APGs in the Annual Performance Report, part of NASA's FY 2009 Budget Estimates to be available on February 4, 2008, at www.nasa.gov/about/budget/index.html.

The line of business/Mission Directorate for each Outcome is in parenthesis. Cross-Agency Support Programs do not have their own lines of business.

Strategic Goal 1: Fly the Shuttle as safely as possible until its retirement, not later than 2010.

1.1: Assure the safety and integrity of the Space Shuttle workforce, systems and processes while flying the manifest. (Space Operations)

1.2: By September 30, 2010, retire the Space Shuttle. (Space Operations)

Strategic Goal 2: Complete the International Space Station in a manner consistent with NASA's International partner commitments and the needs of human exploration.

2.1: By 2010, complete assembly of the U.S. On-orbit Segment; launch International Partner elements and sparing items required to be launched by the Shuttle; and provide on-orbit resources for research to support U.S. human space exploration. (Space Operations)

2.2: By 2009, provide the on-orbit capability to support an ISS crew of six crewmembers. (Space Operations)

Strategic Goal 3: Develop a balanced overall program of science, exploration, and aeronautics consistent with the redirection of the human spaceflight program to focus on exploration.

Sub-goal 3A: Study Earth from space to advance scientific understanding and meet societal needs.

3A.1: Progress in understanding and improving predictive capability for changes in the ozone layer, climate forcing, and air quality associated with changes in atmospheric composition. (Science)

3A.2: Progress in enabling improved predictive capability for weather and extreme weather events. (Science)

3A.3: Progress in quantifying global land cover change and terrestrial and marine productivity, and in improving carbon cycle and ecosystem models. (Science)

3A.4: Progress in quantifying the key reservoirs and fluxes in the global water cycle and in improving models of water cycle change and fresh water availability. (Science)

3A.5: Progress in understanding the role of oceans, atmosphere, and ice in the climate system and in improving predictive capability for its future evolution. (Science)

3A.6: Progress in characterizing and understanding Earth surface changes and variability of Earth's gravitational and magnetic fields. (Science)

3A.7: Progress in expanding and accelerating the realization of societal benefits from Earth system science. (Science)

Sub-goal 3B: Understand the Sun and its effects on Earth and the solar system.

3B.1: Progress in understanding the fundamental physical processes of the space environment from the Sun to Earth, to other planets, and beyond to the interstellar medium. (Science)

3B.2: Progress in understanding how human society, technological systems, and the habitability of planets are affected by solar variability and planetary magnetic fields. (Science)

3B.3: Progress in developing the capability to predict the extreme and dynamic conditions in space in order to maximize the safety and productivity of human and robotic explorers. (Science)

Sub-goal 3C: Advance scientific knowledge of the solar system, search for evidence of life, and prepare for human exploration.

3C.1: Progress in learning how the Sun's family of planets and minor bodies originated and evolved. (Science)

3C.2: Progress in understanding the processes that determine the history and future of habitability in the solar system, including the origin and evolution of Earth's biosphere and the character and extent of prebiotic chemistry on Mars and other worlds. (Science)

3C.3: Progress in identifying and investigating past or present habitable environments on Mars and other worlds, and determining if there is or ever has been life elsewhere in the solar system. (Science)

3C.4: Progress in exploring the space environment to discover potential hazards to humans and to search for resources that would enable human presence. (Science)

Sub-goal 3D: Discover the origin, structure, evolution, and destiny of the universe, and search for Earth-like planets.

3D.1: Progress in understanding the origin and destiny of the universe, phenomena near black holes, and the nature of gravity. (Science)

3D.2: Progress in understanding how the first stars and galaxies formed, and how they changed over time into the objects recognized in the present universe. (Science)

3D.3: Progress in understanding how individual stars form and how those processes ultimately affect the formation of planetary systems. (Science)

3D.4: Progress in creating a census of extra-solar planets and measuring their properties. (Science)

Sub-goal 3E: Advance knowledge in the fundamental disciplines of aeronautics, and develop technologies for safer aircraft and higher capacity airspace systems.

3E.1: By 2016, identify and develop tools, methods, and technologies for improving overall aircraft safety of new and legacy vehicles operating in the Next Generation Air Transportation System (projected for the year 2025). (Aeronautics Research)

3E.2: By 2016, develop and demonstrate future concepts, capabilities, and technologies that will enable major increases in air traffic management effectiveness, flexibility, and efficiency, while maintaining safety, to meet capacity and mobility requirements of the Next Generation Air Transportation System. (Aeronautics Research)

3E.3: By 2016, develop multidisciplinary design, analysis, and optimization capabilities for use in trade studies of new technologies, enabling better quantification of vehicle performance in all flight regimes and within a variety of transportation system architectures. (Aeronautics Research)

3E.4: Ensure the continuous availability of a portfolio of NASA-owned wind tunnels/ground test facilities, which are strategically important to meeting national aerospace program goals and requirements. (Aeronautics Research)

Sub-goal 3F: Understand the effects of the space environment on human performance, and test new technologies and countermeasures for long-duration human space exploration.

3F.1: By 2008, develop and test candidate countermeasures to ensure the health of humans traveling in space. (Exploration Systems)

3F.2: By 2010, identify and test technologies to reduce total mission resource requirements for life support systems. (Exploration Systems)

3F.3: By 2010, develop reliable spacecraft technologies for advanced environmental monitoring and control and fire safety. (Exploration Systems)

Strategic Goal 4: Bring a new Crew Exploration Vehicle into service as soon as possible after Shuttle retirement.

4.1: No later than 2014, and as early as 2010, transport three crewmembers to the International Space Station and return them safely to Earth, demonstrating an operational capability to support human exploration missions. (Exploration Systems)

4.2: No later than 2014, and as early as 2010, develop and deploy a new space suit to support exploration, that will be used in the initial operating capability of the Crew Exploration Vehicle. (Exploration Systems)

Strategic Goal 5: Encourage the pursuit of appropriate partnerships with the emerging commercial space sector.

5.1: Develop and demonstrate a means for NASA to purchase launch services from emerging launch providers. (Space Operations)

5.2: By 2010, demonstrate one or more commercial space services for ISS cargo and/or crew transport. (Exploration Systems)

5.3: By 2012, complete one or more prize competitions for independently designed, developed, launched, and operated missions related to space science or space exploration. (Exploration Systems)

Strategic Goal 6: Establish a lunar return program having the maximum possible utility for later missions to Mars and other destinations.

6.1: By 2008, launch a Lunar Reconnaissance Orbiter (LRO) that will provide information about potential human exploration sites. (Exploration Systems)

6.2: By 2012, develop and test technologies for in-situ resource utilization, power generation, and autonomous systems that reduce consumables launched from Earth and moderate mission risk. (Exploration Systems)

6.3: By 2010, identify and conduct long-term research necessary to develop nuclear technologies essential to support human-robotic lunar missions and that are extensible to exploration of Mars. (Exploration Systems)

6.4: Implement the space communications and navigation architecture responsive to Science and Exploration mission requirements. (Space Operations)

Cross-Agency Support Programs

Education

ED-1: Contribute to the development of the STEM workforce in disciplines needed to achieve NASA's strategic goals through a portfolio of programs.

ED-2: Attract and retain students in STEM disciplines through a progression of educational opportunities for students, teachers, and faculty.

ED-3: Build strategic partnerships and linkages between STEM formal and informal education providers that promote STEM literacy and awareness of NASA's mission.

Advanced Business Systems (Integrated Enterprise Management Program)

IEM-1: By 2008, implement Agency business systems that provide timely, consistent and reliable business information for management decisions.

IEM-2: Increase efficiency by implementing new business systems and reengineering Agency business processes.

Innovative Partnerships Program

IPP-1: Promote and develop innovative technology partnerships among NASA, U.S. industry, and other sectors for the benefit of Agency programs and projects.

Strategic Capabilities

SC-1: Establish and maintain selected Agency level shared capabilities, across multiple classes of assets (e.g., wind tunnels, vacuum chambers, etc.), to ensure that they will continue to be available to support the missions that require them.

Summary of Financial Statement Audit and Management Assurances

The following tables summarize the Agency's FY 2007 material weaknesses as identified by the Financial Statement Auditor and Management. Table 1 summarizes the Financial Statement Audit material weaknesses. Table 2 summarizes the material weaknesses identified by NASA Management in the Statement of Assurance included in the Management Assurance section.

Table 1: Summary of Financial Statement Audit

Audit Opinion	Disclaimer
Restatement	Yes

Material Weaknesses	Beginning Balance	New	Resolved	Consolidated	Ending Balance
Controls Over Property, Plant and Equipment	1	0	0	0	1
Financial Systems, Analyses and Oversight	1	0	0	0	1
Total Material Weaknesses	**2**	**0**	**0**	**0**	**2**

Table 2: Summary of Management Assurances

Effectiveness of Internal Control Over Financial Reporting (FMFIA 2)

Statement of Assurance: Qualified

Material Weaknesses	Beginning Balance	New	Resolved	Consolidated	Reassessed	Ending Balance
Asset Management	0	1	0	0	0	1
Financial Systems, Analyses, and Oversight	1	0	0	0	0	1
Total Material Weaknesses	**1**	**1**	**0**	**0**	**0**	**2**

Effectiveness of Internal Control Over Operations (FMFIA 2)

Statement of Assurance: Qualified

Material Weaknesses	Beginning Balance	New	Resolved	Consolidated	Reassessed	Ending Balance
Information Technology Security	1	0	0	0	0	1
Asset Management	1	0	0	0	0	1
Financial Systems, Analyses, and Oversight	0	1	0	0	0	1
Total Material Weaknesses	**2**	**1**	**0**	**0**	**0**	**3**

Conformance With Financial Management System Requirements (FMFIA 4)

Statement of Assurance: Systems do not conform to financial management system requirements.

Material Weaknesses	Beginning Balance	New	Resolved	Consolidated	Reassessed	Ending Balance
Information Technology Security	0	1	0	0	0	1
Financial Systems, Analyses, and Oversight	1	0	0	0	0	1
Total Material Weaknesses	**1**	**1**	**0**	**0**	**0**	**2**

Compliance With Federal Financial Management Improvement Act (FFMIA)

	Agency	Auditor
Overall Substantial Compliance	No	No
1. System Requirements		No
2. Accounting Standards		No
3. USSGL at Transaction Level		Yes

National Aeronautics and
Space Administration

Office of Inspector General
Washington, DC 20546-0001

NOV 13 2007

TO: Administrator

FROM: Inspector General

SUBJECT: NASA's Most Serious Management and Performance Challenges

As required by the Reports Consolidation Act of 2000, these are our views of the most serious management and performance challenges facing NASA. Over the past year, NASA has been working to address these challenges and improve Agency programs and operations through various initiatives and by implementing recommendations made by the Office of Inspector General (OIG) and other evaluative bodies, such as the Government Accountability Office (GAO). An overarching challenge concerns how NASA integrates diverse programmatic and institutional functions across geographically dispersed operations. Each of the five challenges listed below, and summarized in the enclosure, is colored by this overarching challenge.

- **Transitioning from the Space Shuttle to the Next Generation of Space Vehicles.** Balancing schedule and resource constraints while maintaining the capabilities required to fly the Space Shuttle safely and effectively and, simultaneously, developing the next generation of space vehicles.

- **Managing Risk to People, Equipment, and Mission.** Effectively managing risk, safety, and mission assurance controls to ensure reliable operations in the context of aggressive launch and mission schedules, funding limitations, and other future uncertainties.

- **Financial Management.** Ensuring that the Integrated Enterprise Management Program (IEMP) improves NASA's ability to efficiently provide reliable information to management, supports compliance with the Chief Financial Officers Act and other Federal requirements, and strengthens the Agency's Internal Control Program to address continued problems such as NASA's internal controls over property, plant, and equipment and materials (PP&E).

- **Information Technology (IT) Security.** Improving management and operational and technical controls to protect the information and information systems vital to the Agency's mission.

- **Acquisition and Contracting Processes.** Developing adequate cost estimates, managing program costs, and ensuring that NASA is using the most advantageous acquisition and procurement strategies and safeguards to promote competition in contracting and to maximize the Agency's ability to fulfill its missions.

Transitioning from the Space Shuttle to the next generation of space vehicles remains on the list of challenges because of the complexity of balancing the human capital, equipment, and property needs of the Space Shuttle Program with the needs of the Constellation Program without compromising either program. The challenge arises within the framework of a projected 5-year gap between the last expected flight of the Space Shuttle in 2010 and the first projected flight of the Crew Exploration Vehicle (CEV) in 2015.

That 5-year period will challenge NASA's ability to maintain employee skill sets, efficiently utilize its infrastructure and suppliers, and provide adequate support to the activities of the International Space Station (ISS). At issue is maintaining the critical skills now present in the Space Shuttle workforce throughout the remaining Shuttle flights while placing additional emphasis on defining the skill sets needed by the Constellation Program. NASA's plans to rely on international partners and commercial providers during the 5-year gap period to provide the support necessary to operate the ISS will also be a challenge because the capabilities, schedules, and funding requirements for NASA, its international partners, and commercial cargo vehicles are not yet firm enough to ensure that the ISS mission objectives can be fulfilled.

NASA's role as the Nation's leader in space and aeronautics research and development contains inherent risk management challenges. Continuing to confront the Agency are operational and safety risks and mitigating these risks is a continuous challenge.

Even when the risk management system is robust, activities such as flying the Space Shuttle involves the acceptance of substantial amounts of risks. For example, notwithstanding risk mitigation efforts by the Agency subsequent to the *Columbia* accident and since return to flight, foam continues to liberate from the external tank and potentially threaten the orbiters and their crews. The alternative to managing (and accepting) the risk would be to permanently ground the Shuttles. Grounding has occurred for temporary periods to address specific issues or to conduct a comprehensive review of issues. However, grounding the Shuttles prior to the planned retirement of the Space Shuttle program in 2010 would result in a failure to accomplish the missions that have been laid out for the program over the next 3 years. The Agency's willingness to accept risks, such as those associated with continued Shuttle flights to accomplish the mission, may reflect or it may exceed the Nation's tolerance for such risk. NASA refers to the Shuttle as a test flight and experimental vehicle recognizing the risk inherent in the program. A misalignment between the risk NASA accepts and the Nation's tolerance for such risk will bear no negative consequence so long as NASA's risk acceptance is rewarded with successful flights. Were tragedy to strike again, however, the merits of manned space flight to the moon and Mars would likely be reevaluated.

NASA programs are constantly challenged by risks introduced by fiscal and schedule tightening that result from internal weaknesses such as failing to adequately identify requirements prior to program execution and not adequately overseeing contractor performance. NASA programs are also challenged by risks associated with the reprioritization of resources to meet continually evolving demands. These pressures can be manifest in subtle and incremental ways. These fiscal challenges are not new and

NASA's past difficulty in developing systems within cost, schedule, and performance parameters are well documented.

NASA's financial management remains on the list of challenges because of continued internal control problems affecting the Agency's ability to produce complete and accurate financial statements and provide sufficient evidence to support statements throughout the fiscal year. These deficiencies have resulted in a disclaimer of opinion on its financial statements by Independent Public Accountant audits since FY 2003. Many of the deficiencies the audits disclosed resulted from a lack of effective internal control procedures and data integrity issues. Although NASA has made progress in addressing these deficiencies, during FY 2007, the auditors noted that similar inadequacies still exist.

Two of the most significant deficiencies involve the financial statement preparation process and NASA's internal controls over property, plant, and equipment and materials (PP&E). NASA's financial statement preparation process contains deficiencies affecting NASA's ability to effectively accumulate, assemble, and analyze information to timely develop its financial statements on a routine and recurring basis. Consistent with last year's audit report, NASA's ongoing PP&E weakness is a result of NASA relying primarily on a retrospective review of disbursements to determine amounts that should be capitalized with a heavy dependence on contractors to identify assets created at a contractor's location.

We have again included IT Security as a most serious management and performance challenge because our work and that of the Agency continues to report that significant weaknesses persist and many IT security challenges remain. Significant management and operational and technical control weaknesses continue to impact the Agency's IT Security Program and threaten the confidentiality, integrity, and availability of NASA information and its systems. That threat is tangible in that the Agency continues to be a target for criminal computer intrusions. For example, NASA OIG recently investigated a series of unlawful computer intrusions into NASA's Earth Observation System networks. Aside from the operational impact to the Agency's mission, such as the temporary suspension of automated processes, these intrusions cost NASA $1.5 million for incident mitigation and clean-up costs alone.

Significant challenges include establishing an IT security internal control program; enhancing intrusion detection and computer forensics with incident management analysis; implementing improved NASA network security monitoring capabilities; and managing IT asset and Internet protocol addresses. Although these challenges are significant, NASA has taken tremendous steps in FY 2007 to bolster its IT security defenses. Despite the progress NASA has made in improving its IT Security Program, IT security is still a most serious management and performance challenge and is recognized by the Agency as a material weakness.

Weaknesses in NASA's acquisition and contracting processes pose significant challenges to NASA's ability to make informed investment decisions. GAO reported that NASA still lacks a modern, fully implemented integrated financial management system to provide accurate and reliable information on contract spending, has undisciplined

cost-estimating processes, and lacks the ability to obtain information needed to assess contract progress. Audits and investigations completed by OIG and GAO in FY 2007 also continued to reveal systemic problems in areas such as knowledge-based acquisitions and procurement process abuses. Challenges to the Agency include implementation of changes to its acquisition approach and preventing and deterring procurement fraud.

In FY 2008, the OIG will continue to conduct work that focuses on NASA's efforts to meet these challenges as part of our overall mission to promote the economy and efficiency of the Agency and to root out fraud, waste, and abuse.

Robert W. Cobb

Enclosure

NASA's Most Serious Management and Performance Challenges

Transitioning from the Space Shuttle to the Next Generation of Space Vehicles

NASA's challenge in transitioning from the Space Shuttle to the next generation of space vehicles is multifaceted, as NASA must balance the mission, equipment, facility, and human capital needs of the Space Shuttle Program (SSP) with the needs of the Constellation Systems Program[1] without compromising the operations of either. The projected 5-year gap between the last expected flight of the Space Shuttle in 2010 and the first projected flight of the Crew Exploration Vehicle (CEV) in 2015 will challenge NASA's ability to retain certain employee skill sets, efficiently utilize its infrastructure and suppliers, and adequately support the activities of the International Space Station (ISS). NASA has not experienced a challenge of this magnitude since the end of the Apollo Program and the beginning of the shuttle program.

To manage the transition effort, NASA has taken steps to establish a governance structure and develop a transition plan. The transition is governed by representatives from the Space Operations Mission Directorate (SOMD), the Exploration Systems Mission Directorate (ESMD), and NASA's Mission Support Offices. SOMD is responsible for operating the SSP until its retirement in 2010 and for managing the completion and use of the ISS. ESMD is responsible for the Constellation Systems Program. The Mission Support offices are responsible for providing the institutional capabilities needed to support the transition effort. The transition's governing board's responsibilities include evaluating transition decisions to ensure that those decisions promote efficiencies and synergies between the human space flight programs; ensuring that existing infrastructure and resources evolve to support future programs; and ensuring that strategies, decision-making, priorities, budgets, schedules, and top-level requirements are coordinated across NASA.

In addition to establishing the governance structure, NASA finalized its "Human Space Flight Transition Plan," which details how NASA will manage the transition activities, to include acquisition, budget, data and records management, environmental management, human capital, information technology, property, and transition metrics. Subsequent to finalizing the plan, the Agency took action to address findings and recommendations from our report, "NASA's Plan for Space Shuttle Transition Could Be Improved by Following Project Management Guidelines," January 9, 2007, and GAO reports concerning the transition. Those actions have improved NASA's plans for the overall transition and its various component parts, such as human capital, property, and cost.

With the governance structure and initial transition plan in place, NASA can concentrate on managing the transition through the 5-year gap period (2010–2015) between the last expected flight of the Space Shuttle and the first projected flight of the CEV. During FY 2007, the

[1] The Constellation Systems Program is responsible for developing the next-generation space vehicles and the related exploration architecture systems.

OIG, and GAO and other external entities including Congress, have focused on certain aspects of the transition effort, specifically, the effects of the period between last SSP flight and first CEV flight, on NASA's workforce and the sustainment of the ISS. Workforce issues include maintaining the critical skills now present in the Space Shuttle workforce throughout the remaining Shuttle flights while placing additional emphasis on defining the skill sets needed by the Constellation Program, especially those that will be needed at Kennedy Space Center. Although the workforce at other NASA Centers are engaged in development and production activities for the new vehicles, Kennedy personnel's primary focus is launch and maintenance. Skills related to these activities are more likely to deteriorate from lack of use—i.e., the gap period effect. Therefore, the Constellation Program should adequately define its needed skill sets and take the steps necessary to retain the workforce it will need.

Sustaining the ISS during the gap period is crucial to realizing the ISS research potential and protecting the extensive United States and foreign investment in the ISS. NASA plans to rely on international partners and commercial providers during the gap period to provide the logistics support and crew rotation necessary to operate the ISS. However, the capabilities, schedules, and funding requirements for NASA, its international partners, and commercial cargo vehicles are not yet firm enough to ensure that the ISS mission objectives can be fulfilled. If NASA does not commit sufficient resources to ensuring that logistics support to the ISS can be realized after the final flight of the Space Shuttle, that lack of support will seriously decrease the ISS's utility to the United States.

The Agency continues to acknowledge the difficulty that it faces in managing the transition effort. It has commissioned outside studies to provide independent assessments of some of the transition issues, to include the workforce concerns. We are also reviewing the development of next-generation space vehicles and supporting equipment. In FY 2007, we initiated an audit of the acquisition of the CEV Project and the Constellation Space Suit System, focusing on the development of technical and safety requirements and the achievement of project milestones.

The Agency has taken the requisite first steps to achieve a successful transition by enhancing its knowledge base, engaging a management team, and developing a transition plan. NASA should now concentrate its efforts on ensuring that the transition plans can be successfully executed and that any unexpected problems can be resolved. If not, the Agency risks its ability to move forward and timely meet its future goals of human space flight to the Moon and beyond.

Managing Risk to People, Equipment, and Mission

NASA programs are constantly challenged by risks introduced by fiscal and schedule tightening that result from internal weaknesses such as failing to adequately identify requirements prior to program execution and not adequately overseeing contractor performance. NASA programs are also challenged by risks associated with the reprioritization of resources to meet continually evolving demands. In addition, NASA's role as the Nation's leader in space and aeronautics research and development adds obstacles to its risk management program because risk is inherent in crossing the thresholds of technology.

In executing the President's Vision, NASA will use the Space Shuttle to complete the ISS and then retire the Shuttle in 2010 while simultaneously developing new space vehicles that can travel beyond low-Earth orbit to the Moon and beyond. Aside from the tremendous technical challenges associated with these enterprises, accomplishment of those missions is susceptible to budgetary constraints imposed through the appropriation process. The NASA Administrator acknowledges this risk in his statement that "All of our programs proceed in a 'go-as-we-can-afford-to-pay' manner; so if we receive less funding than requested, we will adjust our pace." The implications associated with this budgetary reality add ever-increasing risk to an organization responsible for taking the Nation's lead in space and aeronautics research and development and whose programs are designed to operate over several decades.

Both internal and external influences continue to have an impact on funding for mission directorates, programs, and projects. Funding for the Science Mission Directorate (SMD), for example, continues to be impacted by competing priorities internal and external to NASA. In a statement before the Committee on Commerce, Science and Transportation Subcommittee on Space, Aeronautics and Related Sciences, United States Senate, the Administrator relied heavily on the results of the Decadal Survey of the National Academy of Sciences to secure schedule-assurance funding for several Earth Science projects. For example, the Administrator stated that the SMD request for FY 2008 "includes additional funding for the Global Precipitation Measurement (GPM) mission to improve schedule assurance in response to the high priority placed on GPM in the Decadal Survey." This mission was first proposed in FY 2001 but had never been a high enough priority to have funding made available to move GPM out of the formulation phase.

Budget constraints and the emphasis on implementing the President's Vision and the Decadal Survey priorities also impact the Aeronautics Research Mission Directorate. Affected is its ability to effectively implement the tenets of the National Aeronautics Research Development Policy, signed by the President on December 20, 2006, and its ability to effectively carry out its responsibilities in the development of the Next-Generation Airspace Transportation System. The National Research Council also acknowledged this impact in its report *Aeronautics Innovation, NASA's Challenges and Opportunities*. The report references risks to NASA missions in that, "despite strong private-sector support for a broad and robust federal government role in civil aeronautics technology development, Congress and recent administrations have not come to terms on what are widely regarded as nationally important NASA aeronautics missions and the level of resources needed to address them effectively and in a timely fashion."

Other challenges NASA faces in managing risk include its International cooperation arrangements and commercial partnerships. The President's Vision directs NASA to pursue opportunities for international partnership in support of the Nation's exploration goals. To address this Agency objective, each of NASA's Mission Directorates is involved with international cooperation at some level. NASA also plans to create and expand existing partnerships with U.S. private industry to develop and implement the Nation's new exploration systems, infrastructure, and technologies. Although international and commercial partnerships are key to implementing the President's Vision, such partnerships involve risks including changes in U.S. foreign relations policy, changes in the global economy, integration and compatibility problems with NASA systems, and sustaining long-term commitments with

those partners. Changes in any of these contingencies could ultimately impact mission objectives. NASA will need to take the appropriate steps to sufficiently mitigate those risks.

NASA has also contributed to its own risk management challenges. For example, NASA's approach to developing the new space vehicles involves the participation of nine Agency Centers in the development process. This approach, while ensuring that each of the Centers maintains a robust working environment, could increase the risks associated with product and process integration, as program and project managers must ensure that although work is performed at multiple geographic locations that the final product can be successfully integrated and is consistent with the architectural design.

In addition, while work progresses on the development process, NASA must also focus on the safe and successful completion of the remaining Shuttle flights. Foam liberation continues to challenge the Space Shuttle Program, as the various problems with foam have been difficult to predict and resolve from a holistic perspective. Each of the remaining shuttle flights may encounter risks to mission completion because of different types of foam liberation incidents requiring different mitigation procedures. Lastly, although it remains questionable whether the alleged incidents of astronaut alcohol use in the immediate preflight period of the Space Shuttle missions were based on fact, the allegations alone point to continued challenges—perceived or actual—to NASA's safety culture.

With the Constellation Program, NASA has a unique opportunity to leverage the lessons learned from the past concerning risk, risk management, and its safety culture. By virtue of its design, the Constellation Program may avoid design risk issues that threaten the SSP but important risk and safety decisions still need to be made. The key will be to ensure that the process of making those risk and safety decisions is open, honest, and impartial and based on a continuous risk management process.

For the next fiscal year, the OIG plans to dedicate considerable resources to reviewing the Agency's risk management efforts. Our focus will include monitoring NASA's actions to address the foam issue, following up on the Agency's actions taken in response to reports on astronaut health and preflight use of alcohol[2] and examining external influences to NASA's development and accomplishment of specific mission priorities.

Financial Management

Since 2003, NASA has not been able to produce auditable financial statements or provide sufficient evidence to support statements throughout the fiscal year. NASA received a disclaimer of opinion on its financial statements from Independent Public Accountant audits by PricewaterhouseCoopers (PwC) in FY 2003 and by Ernst & Young (E&Y) in FY 2004 through FY 2007. These audit reports identified instances of noncompliance with generally

[2] The review panel report "Astronaut Health Care System Review Committee Report" (undated) and the August 28, 2007, NASA Office of Safety and Mission Assurance report "Space Flight Safety Review (Alcohol Use in the Preflight Period)."

accepted accounting principles, reportable conditions,[3] material weaknesses in internal controls, and noncompliance with the Federal Financial Management Improvement Act of 1996 and the Improper Payments Information Act of 2002. Many of the deficiencies the audits disclosed resulted from a lack of effective internal control procedures and from data integrity issues. As shown in the following table, while NASA has made progress in addressing deficiencies, internal control weaknesses still exist. The two remaining material weaknesses involve NASA's financial statement preparation process and internal controls over property, plant, and equipment and materials (PP&E).

Internal Control Deficiencies						
Fiscal Year		2007	2006	2005	2004	2003
Independent Public Accountant		E&Y	E&Y	E&Y	E&Y	PwC
Audit Opinion		Disclaimer	Disclaimer	Disclaimer	Disclaimer	Disclaimer
Internal Control Deficiencies	General Controls Environment[a]	—	—	—	material weakness	reportable condition
	Property, Plant, and Equipment and Materials	material weakness	material weakness	material weakness	material weakness	material weakness
	Financial Statement Preparation Process and Oversight	material weakness	material weakness	material weakness	material weakness	material weakness
	Fund Balance with Treasury[b]	—	—	material weakness	material weakness	material weakness
	Audit Trail and Documentation to Support Financial Statements[c]	—	—	—	—	material weakness
	Environmental Liability Estimation[d]	—	—	reportable condition	reportable condition	—

[a] The General Controls Environment weakness had mostly been resolved for FY 2005. The segregation of duties component of this weakness was included in the Financial Statement Preparation Process and Oversight weakness for FYs 2005–2007.

[b] The Fund Balance with Treasury reconciliations weakness cited in FY 2005 had mostly been resolved; a weakness relating to timely resolution of Budget Clearing Account balances was included in the overall Financial Statement Preparation Process and Oversight weakness for FY 2006. This deficiency was resolved in FY 2007.

[c] The weakness on Audit Trail cited in FY 2003 continued to exist in subsequent years (FYs 2004–2007); however, it was included in the overall Financial Statement Preparation Process and Oversight weakness.

[d] The deficiency cited for Environmental Liability Estimation had mostly been resolved for FY 2006. Control deficiencies surrounding the software application used to prepare the estimates, and a lack of involvement by the appropriate Office of the Chief Financial Officer in related accounting matters was included in the Financial Statement Preparation Process and Oversight weakness for FYs 2006 and 2007.

During the FY 2007 audit, E&Y noted that NASA's financial statement preparation process contains deficiencies affecting NASA's ability to effectively accumulate, assemble, and analyze information to timely develop its financial statements on a routine and recurring basis. For example, NASA personnel were unable to adequately describe how balances reflected in the statements were derived and unable to provide reasons for unusual activity and balances; also the review process missed mistakes and errors in the analyses. All of this

[3] The term "significant deficiency" replaced "reportable condition," effective for FY 2007 reporting, with the issuance of Statement on Auditing Standards No. 112, "Communicating Internal Control Related Matters Identified in an Audit."

suggests deficiencies in aspects of an effective supervision and review process and that NASA's review process may not be fully effective. Although processes continue to be improved, other issues such as data integrity, systems that are not fully integrated, evolving account reconciliation, and periodic analysis processes directly affect and continue to provide challenges to the development of auditable financial statements.

Consistent with the FY 2006 audit report, NASA's ongoing PP&E weakness is a result of not having a process to determine at the point of budget formulation, obligation recognition, contract development, accounts payable recognition, or disbursement, the value of property NASA expects to buy, has contracted for, or has purchased. NASA relies primarily on a retrospective review of disbursements to determine amounts that should be capitalized and continues to depend heavily on contractors to identify any assets created at a contractor's location. The retrospective review and dependence on contractor reporting increases the risk that related costs will not be properly captured and capitalized. Beginning in FY 2008, NASA plans to have sufficient controls in place to identify, within the Core Financial module, capital acquisitions from project inception through the use of internal checklists, system identifiers, revised contractor cost reporting mechanisms, and invoicing requirements. NASA also plans to implement the Integrated Asset Management - PP&E module project to correct some of the property deficiencies cited by NASA's financial statement auditors.

During FY 2007, NASA changed its accounting treatment of costs associated with space exploration projects. Treatment changed from capitalizing costs of equipment acquired or constructed for a particular research and development project and having no alternative future uses to recognizing these costs as research and development expenses in the period incurred. The cumulative effect of this change in accounting principle was a decrease in the PP&E balance by approximately $12.7 billion. Even with the significantly decreased PP&E balance, NASA still faces challenges in addressing the question of whether certain land-based assets categorized with the space exploration projects are so unique that the remaining technology and hardware are of no future use and cannot be salvaged or used in other research and development projects.

Environmental liability estimation was not cited as a significant deficiency in the FYs 2006 and 2007 audits, but NASA still has not validated the software program that contains the parametric cost-estimating models used to estimate a portion of its unfunded environmental liability estimate. NASA also has not established a process to identify and record the clean-up costs of removing, containing, and/or disposing of hazardous waste from its PP&E. The amount could be substantial given the extent of NASA's property and the uses to which it has served. In FY 2008, NASA plans to develop a workplan and implement procedures to identify and record these costs in compliance with Federal accounting standards.

Ensuring the Agency's financial systems meet the requirements for Federal financial management systems continues to be a serious challenge. During the FY 2007 audit, NASA's management continued to identify certain transactions that were being posted incorrectly due to improper configuration or design within the Core Financial module. In addition, the auditors noted certain data element fields were either missing information or the information was inaccurate.

Although the inability of the Agency's financial management and business systems to provide accurate and timely financial data has troubled NASA for several years, recent progress in correcting this deficiency should be noted. In November 2006, NASA implemented the Systems, Applications, and Products (SAP) Version Update (SVU) to the Core Financial module to improve NASA's ability to enhance its financial tracking and reporting capabilities. Some of the enhancements included a redesign of funds management and further automation of adjustment accounting entries. Since the completion of the SVU rollout, however challenges in system processing, configuration, and capabilities have surfaced and system version limitations have required the implementation of compensating controls. As of September 2007, the SVU Project Office was still stabilizing the SVU and deploying system patches to resolve known issues.

The Agency also recently performed a gap analysis to determine where NASA's financial management and business systems were not meeting the needs of NASA's mission projects. Because of the gap analysis, steps are being taken to translate gaps into an integrated set of business system requirements that will be compiled into an Agency Business Concept of Operations. Once identified, however, those requirements will compete for financial resources against other mission requirements and the available budget.

The Agency has also made recent progress with regard to internal controls. NASA recently established the Office of Internal Controls and Management Systems (OICMS) to assist the Agency in integrating both financial, institutional, and program-related internal control activities and improving management's efficiency and level of oversight. Since its establishment, OICMS has updated or is in the process of updating various guidance and policy documents; developed oversight roles and responsibilities for the Senior Assessment Team (SAT) and the Operations Management Council (OMC); and proposed a revised Statement of Assurance process for FY 2007, which was endorsed by the OMC.

Some of the measures implemented by OICMS were a direct result of our "Audit of NASA's Compliance with Federal Internal Control Reporting Requirements" (IG-07-025, August 14, 2007). During the audit, we found that NASA's FY 2006 guidance for assessing and reporting on internal controls, and similar guidance being drafted for FY 2007, was incomplete or lacked sufficient clarification and was not distributed in a timely manner for either year. In addition, we found that the tools (i.e., training and communication) for implementing the guidance were ineffective. Further, we found that there was not a clear audit trail of documentation supporting the FY 2006 statements of assurance submitted by NASA offices and Centers, which were the basis for NASA's Statement of Assurance signed by the Administrator.

Although much progress has been made in developing and maintaining an effective Internal Control Program, the Agency will likely face implementation challenges as it focuses on identifying, assessing and reporting on programmatic internal controls. Challenges include obtaining buy-in from Agency officials on the importance of assessing and reporting on program-related internal controls and ensuring that these officials obtain a clear understanding of how internal controls can directly influence their ability to effectively use resources and improve program and project success. The Agency's continued emphasis on identifying,

assessing, and addressing issues related to internal controls should further link management's objectives with mission success.

Information Technology (IT) Security

Our criminal investigative efforts over the past 5 years confirm that the threats to NASA's information are broad in scope, sophisticated, and sustained. Even more troubling is that the threats appear to evolve along with new technologies and range from low-end hacking to complex attacks aimed at some of NASA's most sensitive data. In addition, internal and external audits and reviews of the Agency's IT security continue to identify systemic management and technical and operational control weaknesses that impact the Agency's IT Security Program and threaten the confidentiality, integrity and availability of NASA information and its systems. The results of those reviews reflect significant challenges; however, NASA has taken the initiative to identify significant internal control weaknesses and taken tremendous steps to bolster its IT security defenses. Despite the progress that NASA has made in improving its IT Security Program for FY 2007, IT security is still a most serious management and performance challenge and is recognized by the Agency as a material weakness.

In January 2007, the Agency completed a comprehensive security review of the NASA IT Security Program. The IT security review (1) assessed Headquarters and Center implementation of existing requirements, (2) evaluated the effectiveness of the Agency's organizational structure, (3) verified the accuracy of incident and status reports, and (4) evaluated the effectiveness of policy enforcement efforts. The review identified significant challenges in implementing and maintaining a comprehensive IT Security Program across a large array of networks and information systems. Significant challenges include establishing an IT security internal control program; enhancing intrusion detection and computer forensics with incident management analysis; implementing improved NASA network security monitoring capabilities; and managing IT asset and Internet protocol address.

The Agency's IT security review identified challenges similar to those that the OIG has identified in previous audits and reviews. For example, NASA cited its current IT organizational reporting structure as a management control deficiency. NASA reported that the organizational structure and roles and responsibilities of its IT personnel varied by site. The fragmentation of IT resources and lack of clearly documented roles and responsibilities contributed to the Agency's inability to hold individuals accountable for implementing and complying with NASA policies, procedures, and standards and did not promote timely and consistent communication and reporting. The Agency attributed the lack of compliance to many causes including a lack of available, knowledgeable, and trained personnel to implement those policies. These operational control weaknesses resulted in the implementation of key IT security functions being managed on an individual-by-individual basis and an inconsistent execution of compensating technical controls such as patch management and incident response.

The review resulted in recommendations that the NASA Office of the Chief Information Officer (OCIO) is aggressively addressing, in accordance with OCIO's March 23, 2007, corrective action plan. Noteworthy examples of corrective actions include over 90 percent of the Agency's systems obtaining compliance with OMB guidance by October 1, 2007; establishing a working group to design and develop requirements for an Incident Response Capability system; and the issuance of supplemental guidance to further define external systems and ensure consistent implementation of IT security policies and procedures.

In FY 2007, our audit of the incident detection and response process and the results of the Agency's internal review found similar systemic weaknesses. In our audit, "Controls over the Detection, Response, and Reporting of Network Security Incidents Needed Improvement at Four NASA Centers Reviewed" (IG-07-014, June 19, 2007), we reported that the controls in place at the four Centers we visited did not provide reasonable assurance that network security incidents were detected, resolved, and reported in a timely manner. NASA's internal review also identified areas where the incident detection and response process could be improved. NASA plans to more clearly define the roles for incident response, consolidate the management of incident detection and response capabilities to more effectively respond to incidents, and ensure that NASA implements appropriate prevention measures.

Other similar issues identified during our FY 2007 audits and reviews included deficiencies related to access to sensitive information and configuration management. In addition, several NASA Centers have experienced IT security incidents, which the OIG is investigating. The cumulative effect of these internal control weaknesses and those reported by the Agency led to the continued reporting of NASA's IT security as a material weakness, adversely affecting Agency resources for, and support to, NASA's mission. However, continued reporting of IT security as a material weakness allows for management's continued focus and strategic resource allocation to fully address the IT Security Program's shortcomings. During FY 2008, we will continue to work with the OCIO to identify and successfully mitigate known deficiencies in an effort to potentially downgrade IT security as a material weakness in the near future.

Acquisition Processes and Contract Management

Given that NASA expends most of its budget through contracts and other procurement vehicles, weaknesses in NASA's acquisition and contracting processes pose significant challenges to the Agency's ability to make informed investment decisions. GAO first identified NASA's contract management as a high-risk area in 1990 and reiterated that assessment in 2005 and 2007, reporting that NASA lacked a modern, fully implemented, integrated financial management system to provide accurate and reliable information on contract spending; that NASA used undisciplined cost estimating processes in project development; and that NASA project managers were unable to obtain information needed to assess contract progress. Although GAO has recently reported on NASA's progress in mitigating the deficiency, OIG and GAO audits and investigations continue to reveal systemic problems in areas such as knowledge-based acquisition and procurement process abuses.

In the most recent update to its high-risk series, GAO credited NASA with developing its draft corrective action plan, "NASA Plan for Improvement in the GAO High Risk Area of Contract Management," June 2007. NASA finalized that Plan in October 2007, and GAO is currently satisfied that the Plan targets problems and issues that their reports have found are contributing to high risk in contract management. The overall objective of the Corrective Action Plan (CAP) is to develop an Agency-wide coordinated approach to improving NASA's program/project management, particularly on how best to assure the mitigation of potential issues in acquisition decisions and better monitor contractor performance. NASA has developed initial metrics to track results that indicate the impact of the initiatives encompassed in the CAP. The seven initiatives included in the CAP involve improving (1) program/project requirements and implementation practices, (2) the Agency's strategic acquisition approach, (3) contractor cost performance monitoring, (4) project management training and development, (5) life-cycle cost/schedule management processes; (6) IEMP processes, and (7) procurement processes and policies.

GAO cited steps that NASA needs to take in order to improve contract management and program oversight. The CAP's initiatives encompass those steps. One step is to develop an integrated financial management system that provides cost information that program managers and cost estimators can use to develop credible estimates and to compare budgeted and actual cost with the work performed on a contract. A second step is to ensure that NASA obtains from its contractors the financial data and performance information needed to assess progress on its contracts. A third step is to develop the full complement of analytical tools and trained staff needed to perform cost analyses, including earned value management, which will alert program managers of potential cost overruns and schedule delays and enable them to take corrective action to mitigate the problems.

To further reduce the risk of cost and schedule runs and performance delays, NASA is also challenged to fully implement a knowledge-based acquisition approach. NASA revised its acquisition policy in 2005 and again in 2007 in response to multiple GAO reports that criticized NASA's approach to acquisition. Specifically, GAO stated that NASA's acquisition framework did not provide the information needed to make major investment decisions, which contributed to NASA's difficulties in meeting cost, schedule, and performance objectives for its programs and projects. To address those concerns, NASA revised its acquisition policy to require requirements validation, realistic cost and schedule estimates, and technology maturation before design finalization; major decision reviews between each life-cycle phase; and additional oversight from activities independent of the program and/or project.

The policy revisions were a positive step in improving NASA's ability to successfully complete its programs and projects within cost, schedule, and performance parameters. However, implementation of that policy has created its own challenges because it fundamentally changed NASA's approach to acquisition. Personnel within the Exploration Systems Mission Directorate (ESMD), who are responsible for managing the new space vehicles, are having to balance the need to timely develop the new vehicles with the discipline necessary to follow and comply with the revised guidance. In addition, ESMD has had to adjust to the increased level of oversight and the additional effort necessary to respond to the concerns of the oversight activities. NASA has a unique opportunity to improve its processes

concurrently with the acquisition of the new space vehicles. However, successful implementation of those processes will depend on management's commitment to change and ability to encourage compliance by all personnel involved in the acquisition process.

Over the past year, audits and investigations have also continued to reveal systemic procurement process abuses by NASA employees and contractors. Systemic process abuses ranged from inadequate internal controls and noncompliance with regulatory and program guidance to actual fraud and misuse of Government funds. We reported in "Internal Controls to Detect and Prevent Unauthorized and Potentially Fraudulent Purchase Card Transactions at Four NASA Centers Were Not Always Followed" (IG-07-012, August 29, 2007), that internal controls designed to detect and prevent unauthorized and potentially fraudulent transactions were not always followed. Of the 1,749 transactions we reviewed, 186 transactions were questioned as being a potential misuse of Government funds as they involved missing supporting documentation, unauthorized charges that were not disputed, or prohibited items that were purchased. Those transactions were referred to our Office of Investigations. Because effective and efficient procurement practices are critical to NASA's success in achieving its overall mission, we made recommendations to the Agency to improve its internal control process, one of which was that NASA should establish policies and procedures to hold employees accountable for not complying with regulatory and program guidance. The Agency concurred with our recommendations or the intent of the recommendations, and all have been closed by this office since appropriate corrective action has been taken to address them. In our efforts to detect and prevent fraud, our investigations have also identified systemic problems with contractors. Recent examples include contractors submitting fraudulent invoices, which resulted in prison sentences and millions of dollars in restitution being paid to NASA.

During the past few years, the OIG has collaborated closely with the Agency to promote NASA's implementation of a new Agency-wide Acquisition Integrity Program (AIP). The program is designed to enhance NASA's internal control framework for ensuring integrity in its contracts, promoting competition in contracting, and identifying and addressing wrongdoing by contractors. As part of this, a remedy coordination official will ensure that there is an Agency-wide approach to NASA's administration of civil, administrative, and contractual remedies resulting from investigations, audits, or other examinations related to procurement activities. The program provides NASA with a more structured and thoughtful approach for administering contract remedies, sharing best practices, improving internal controls. and raising employee awareness of procurement fraud indicators.

AIP training is being introduced in tiers, with all NASA employees being designated to receive it. In March 2007, the NASA Office of General Counsel and the OIG started providing AIP training to NASA senior management and senior program and project managers. The OIG introduced NASA managers to the program by providing information on our responsibilities related to preventing fraud, waste, and providing case examples of recent activity. During FY 2008, the OIG will continue its collaboration by providing the Agency with our input into the training for NASA's attorneys, contracting officers, and technical representatives. This training reinforces NASA's commitment to fighting fraud, waste, and abuse and educates NASA employees about fraud indicators and how to respond.

Improper Payments Information Act (IPIA) Assessment

Improper Payment Compliance

The National Aeronautics and Space Administration (NASA) is dedicated to reducing fraud, waste, and abuse by adequately reviewing and reporting programs susceptible to improper payments in accordance with the Office of Management and Budget (OMB) Circular A-123 *Management's Responsibility for Internal Control*, Appendix C, *Requirements for Effective Measurement and Remediation of Improper Payments*. To improve the integrity of the Federal government's payments and the efficiency of its programs and activities, Congress enacted the Improper Payments Information Act (IPIA) of 2002 (Public Law No. 107-300). The IPIA contains requirements in the areas of improper payment identification and reporting. It requires agency heads to annually review all programs and activities, identify those that may be susceptible to significant improper payments, estimate annual improper payments in susceptible programs and activities, and report the results of their improper payment activities.

In August 2006, OMB issued Appendix C of OMB Circular A-123—*Requirements for Effective Measurement and Remediation of Improper Payments*. Appendix C supersedes OMB's previous promulgations on improper payments and requires all Executive branch agencies to:

- Review all of its programs and activities to identify those susceptible to significant improper payments. OMB defines significant improper payments as those in any particular program or activity that exceed both 2.5 percent of program payments and $10 million annually.
- Obtain a statistically valid estimate of the annual amount of improper payments in programs and activities.
- Develop corrective action plans and reduction targets for programs/activities found to have significant improper payments.
- Include, in the Agency Financial Report (AFR), an estimate of the annual amount of improper payments in programs/activities and the progress in reducing them.

The IPIA defines an improper payment as any payment that should not have been made or that was made in an incorrect amount (including overpayments and underpayments) under statutory, contractual, administrative, or other legally applicable requirements.

NASA's assessment of risk in fiscal years 2004 through 2006 resulted in improper payments less than 2.5 percent of program payments and less than $10 million. With the assistance of contractor support, during fiscal year (FY) 2007, NASA continued its efforts to improve the integrity of its payments and the efficiency of its programs by conducting a risk assessment of its programs and activities. The Agency identified the following five programs as high risk of being susceptible to improper payments:

- Mars Exploration
- Solar System Research
- Space Shuttle
- International Space Station
- Institutions and Management

Total payments related to these programs amounted to approximately $10 billion in FY 2006. During FY 2007, with the assistance of contractor support, NASA performed an improper payment review of each program in accordance with Appendix C of OMB Circular A-123 and identified an estimated total of approximately $884,243 in improper payments. This annual estimate was based on NASA's FY 2006 data (October 1, 2005 to September 30, 2006). Although the testing performed found that the programs did not have significant improper payments, as defined by OMB A-123, Appendix C, NASA will continue to monitor payments and take appropriate corrective action for any such improper payments.

Improper Payments Information Act Reporting Details

The Improper Payments Information Act (IPIA) of 2002 requires Federal agencies to review their programs and activities annually to identify those programs that are susceptible to high risk of significant improper payments. The Office of Management and Budget (OMB) guidance defines significant improper payments as annual improper

payments in a Line of Business or Program that exceed both 2.5 percent of program payments and $10 million. Agencies are required to identify any programs and activities with significant improper payments, report the annual amount of improper payments, and implement corrective actions.

I. Risk Assessment

NASA's risk assessment for FY 2007 was developed using criteria established for determining levels of risk and evaluating all major programs against these criteria. The risk assessment was performed using the process below:

In FY 2007, NASA performed a comprehensive qualitative and quantitative risk assessment. NASA's risk assessment was conducted to identify those programs susceptible to high risk of significant improper payments. NASA used the following five-step methodology to perform its risk assessment.

(1) Determine Scope of Programs Subject to Risk Assessment

NASA began its risk assessment by determining the population and scope of programs which would be subject to review. NASA derived its initial program scope based upon the FY 2007 Budget Estimate, and identified 63 distinct programs. NASA generated disbursement totals for each program from its financial management system. The aggregate disbursement total was validated against NASA's SF-133, *Report on Budget Execution and Budgetary Resources*. The number of in-scope programs was then reduced to 30 based on the materiality of disbursements.

(2) Develop Risk Matrix Elements

Once the scope of the risk assessment was finalized, NASA developed multiple templates to assist in the implementation of the assessment. These templates were designed to accurately capture and represent the relevant risk conditions facing NASA's programs, and measure the significance of those risk conditions for each program. The templates included risk conditions upon which NASA's programs would be evaluated and captured data such as risk assessment scores, disbursement values, and estimated error rates.

(3) Conduct Interviews with Senior Management and Program Personnel

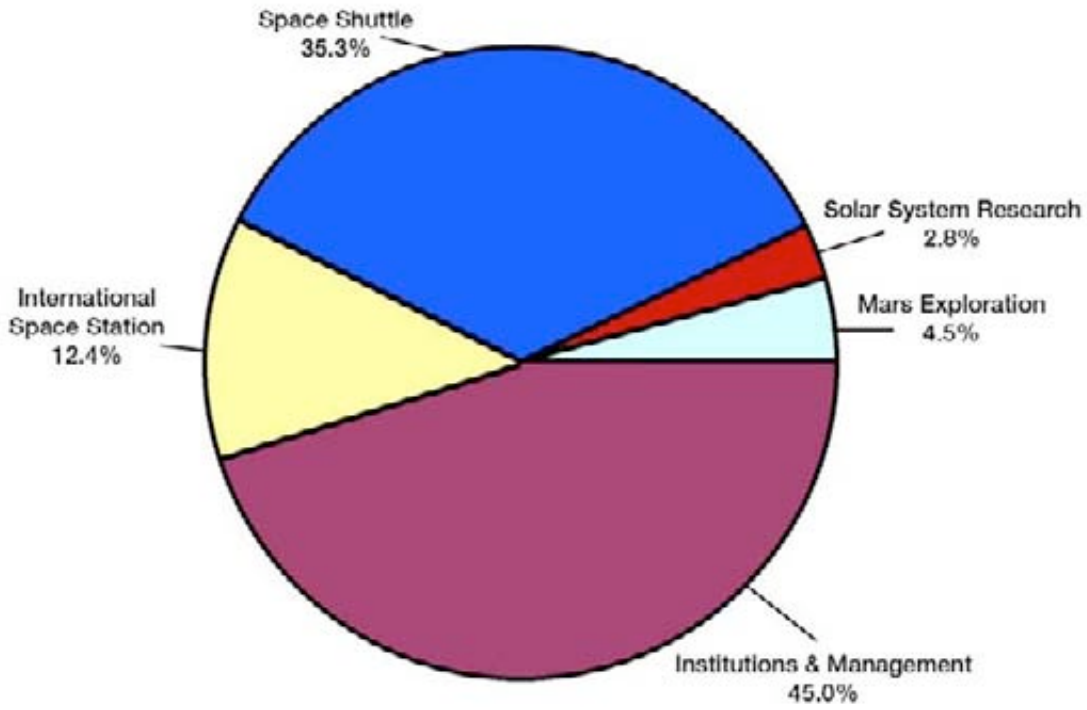
NASA conducted a series of initial interviews with senior management from the offices of the Inspector General and the Chief Financial Officer. These interviews focused on obtaining management's perspective on the conditions that would indicate the risk of improper payments, programs deemed as susceptible to high risk, and corresponding explanations of the perceived risk levels. Interviews with program directors representing the in-scope programs were also conducted and focused on the specific risk conditions previously identified.

(4) Populate Risk Matrix and Identify Highly Susceptible Programs

Based on the results of the interviews, NASA populated the risk matrix with qualitative data for each program (and risk condition). The qualitative data was used in conjunction with the scoring criteria to assign a risk score to each risk condition. NASA used the risk condition scores and weighting formulas to determine an overall risk score, and identify programs at high risk of being susceptible to significant improper payments. As a result the following programs were identified:

- Mars Exploration
- Solar System Research
- Space Shuttle
- International Space Station
- Institutions and Management

FY 2007 Programs Susceptible to High Risk of Significant Improper Payments, as Percentage of Total Susceptible Programs



Detailed Amounts by Program

FY 2007 Susceptible Programs	Total Program Payments FY 2006
Mars Exploration	$459, 983, 032
Solar System Research	282,182,852
Space Shuttle	3,565,163,472
International Space Station	1,249,795,437
Institutions & Management	4,540,019,210
Total	**$10,097,144,003**

II. Statistical Sampling

For each program identified as being susceptible to high risk of significant improper payments, NASA developed a statistically valid random sample of program payments in accordance with OMB guidelines and conducted tests of transactions in order to determine whether payments were proper or improper. NASA used a statistical random sampling method to yield an estimate with a 90 percent confidence level of plus or minus 2.5 percent for each program. A total number of 1,517 transactions were selected and investigated for the period of October 1, 2006 to September 30, 2007. The types of transactions included vendor payments, grantee drawdowns, payroll, Government purchase card, and travel expenditures.

Description of Population and Sample Data
A random sample was selected for the period for each of the (5) programs identified as susceptible to high risk of significant improper payments. The following table shows the number of transactions and dollar value by program for the payment population and sample:

Program	Transactions		$ Value	
	Population	Sample	Population	Sample
Mars Exploration	20,335	451	$459,983,032	$20,358,439
Solar System Research	77,385	248	282,182,852	10,885,850
Space Shuttle	73,843	280	3,565,163,472	9,699,153
Space Station	29,525	292	1,249,795,437	26,144,876
Institutions and Management	4,490,532	246	4,540,019,210	4,731,561
Total	4,691,620	1,517	$10,097,144,003	$71,819,879

The sampling methodology and sample selection for each program is described below:

Mars Exploration
Sampling Methodology: A stratified sampling approach was applied to estimate improper payments for all payment types in the Mars Exploration Program.

Sample Selection: The population of payments included vendor payments, grantee drawdowns, payroll, Government purchase card transactions, and travel expenditures in the defined testing period. A total of 451 items were selected and tested for the FY 2007 sample.

Solar System Research
Sampling Methodology: A stratified sampling approach was applied to estimate improper payments for all payment types in the Solar System Research Program.

Sample Selection: The population of payments included vendor payments, grantee drawdowns, payroll, Government purchase card transactions, and travel expenditures in the defined testing period. A total of 248 items were selected and tested for the FY 2007 sample.

Space Shuttle
Sampling Methodology: A stratified sampling approach was applied to estimate improper payments for all payment types in the Space Shuttle Program.

Sample Selection: The population of payments included vendor payments, grantee drawdowns, payroll, Government purchase card transactions, and travel expenditures in the defined testing period. A total of 280 items were selected and tested for the FY 2007 sample.

International Space Station
Sampling Methodology: A stratified sampling approach was applied to estimate improper payments for all payment types in the Space Station Program.

Sample Selection: The population of payments included vendor payments, grantee drawdowns, payroll, Government purchase card transactions, and travel expenditures in the defined testing period. A total of 292 items were selected and tested for the FY 2007 sample.

Institutions and Management
Sampling Methodology: A stratified sampling approach was applied to estimate improper payments for all payment types in the Institutions and Management Program.

Sample Selection: The population of payments included vendor payments, grantee drawdowns, payroll, Government purchase card transactions, and travel expenditures in the defined testing period. A total of 246 items were selected and tested for the FY 2007 sample.

III. Conclusion

Based on the results of testing, NASA identified four improper payments totaling $72 (under payments). An extrapolation of the four payments over the entire universe resulted in $884,243 of estimated improper payments during the period (October 1, 2005 – September 30, 2006). These amounts are not considered significant as defined by OMB A-123, Appendix C and therefore NASA is not required to submit a written corrective action plan; however, NASA will implement the corrective actions described below in FY 2008 to further reduce its exposure to improper payments.

The following table shows the total payments by population, sample amount, and annual estimate of improper payments by program.

Program	$ Value		FY 2007 Annual Estimate of Improper Payments Over (Under)
	Population	Sample	
Mars Exploration	$459,983,032	$20,358,439	$(753)
Solar System Research	282,182,852	10,885,850	(7,284)
Space Shuttle	3,565,163,472	9,699,153	(276)
Space Station	1,249,795,437	26,144,876	(69)
Institutions and Management	4,540,019,210	4,731,561	(875,861)
Total	$10,097,144,003	$71,819,879	$ (884,243)

- NASA noted three instances where a single invoice was paid more than thirty days after receipt of the respective invoice. This occurred in the Mars Exploration, Solar System Research, and Institutions and Management programs. As a result, an interest penalty should have been applied to the vendor payment as defined by 5 CFR 1315 - Prompt Payment Final Rule in the Code of Federal Regulations. The Prompt Payment Final Rule requires Executive departments and agencies to pay commercial obligations within certain time periods and to pay interest penalties when payments are late.
- NASA will review its current policies and procedures for processing invoices to ensure that the guidance adequately reflects the proper guidelines for compliance with the Prompt Payment Final Rule. NASA will also communicate these procedures to its accounting staff to ensure the consistent application of accounting procedures prompt payment interest penalties.
- NASA noted one instance where a payroll payment to an employee had an incorrect amount. The payment did not include a within-grade increase (WIGI) as specified by an approved Notification of Personnel Action (U.S. Office of Personnel Management Standard Form 50 (SF50)) contained in the employee's Official Personnel File (OPF). Although this appeared to be an isolated incident, NASA will review its current policies and procedures over personnel actions to ensure that proper internal controls are in place for accurate and timely processing of personnel actions.

Recovery Audit

In accordance with the requirements of section 831 of the Defense Authorization Act of Fiscal Year 2002, NASA implemented recovery auditing activities as part of its overall program of effective internal control over contract payments. In FY2007, NASA identified programs and activities susceptible to improper payments and established guidelines and procedures for the implementation of NASA's Recovery Audit Program.

In accordance with OMB guidance, agencies may determine to exclude classes of contracts and contract payments from recovery audit activities if the agency head determines that the recovery audits are inappropriate or not a cost-effective method for identifying and recovering improper payments. As result, NASA does not include cost-type contracts in its assessment for recovery audits.

Due to significant challenges with FY2006 and prior recovery audit activities, NASA was compelled to re-compete its recovery audit services contract. The need for a new contract was an unexpected occurrence in FY 2007 and NASA expected to meet its annual reporting timeframes for completing the audit recovery work. However, the contract was not awarded until August 2007, and NASA is therefore unable to report on recovery audit activity for FY 2007. NASA's new Recovery Audit Contingency Contract is with an industry leader in the field and it expects to have its recovery audit results in ample time to meet the FY 2008 annual reporting requirements.

Other Agency-Specific Statutorily Required Reports

Inspector General Act Amendments Report

The Inspector General Act Amendments

The *Inspector General Act of 1978 (as amended)* requires that the head of each Federal agency make management decisions on all audit recommendations issued by the Office of Inspector General (OIG) within a maximum of six months after the issuance of an audit report. The Act further requires that the head of each Federal agency complete final action on each management decision required with regard to a recommendation in an OIG report within 12 months after issuance of a report.

The *Inspector General Act Amendments of 1988* (P.L. 100-504) requires that Federal agency heads report on the status of management decisions and final management action with regard to audit reports issued by the OIG. NASA's submission in compliance with the *Inspector General Act Amendments of 1988* is provided herein.

Report on Audit Follow-up

NASA management is firmly committed to ensuring the timely resolution and implementation of OIG audit recommendations, and believes that audit follow-up is essential to improving the efficiency and effectiveness of NASA programs, projects, and operations. In this regard, NASA has implemented a comprehensive program of audit liaison, resolution, and follow-up intended to ensure that OIG audit recommendations are resolved and implemented in a timely and effective manner. Additionally, NASA's Office of Internal Controls and Management Systems (OICMS) has partnered with the OIG's Quality Assurance Directorate in a joint effort to conduct periodic assessments of the efficiency and effectiveness of NASA's audit follow-up program, based on requirements delineated in Office of Management and Budget Circular A-50, "Audit Follow-up," dated September 29, 1982.

Reports Pending Final Management Decision Six Months or More After Issuance of a Final Report:

For the fiscal year ended September 30, 2007, there were no audit recommendations issued by the NASA OIG for which a final management decision had not been made within six months of the issuance of a final audit report.

Reports Pending Final Management Action One Year or More After Issuance of Final Report:

As of September 30, 2007 there are 52 audit recommendations on which final management decisions have been made, but final management action is still pending more than one year after the issuance of the associated final report (see Table 1). In many of these instances it was recognized that the approved corrective action proposed by management, and accepted by the OIG, would require more than one year to complete due to the scope or complexity of the action. In those instances where a planned corrective action requires longer than anticipated (including those which would now require more than a year following the issuance of the report to complete), NASA management and the OIG work together to establish a revised corrective action date through an established Request for Extension process. In all cases, NASA continues to aggressively pursue the timely implementation of OIG audit recommendations, consist with the intent of OMB Circular A-50, "Audit Follow-up."

Table 1: Summary of OIG Audit Reports Pending Final Management Action One Year or More After Issuance of a Final Report (As of September 30, 2007)

Report No. Report Date	Report Title	No. of Recommendations Open	Closed
G-00-017 10-22-2001	*Internet-Based Spacecraft Commanding*	1	3
IG-FS-01 1-28-2004	*Audit of NASA's Fiscal Year 2003 Financial Statements*	4	14
IG-FS-02 1-28-2004	*Recommendations to Enhance Internal Accounting Controls and Administrative Efficiency; September 30, 2003; (Part 2 of 2)*	4	67
IG-04-025 9-7-2004	*NASA's Implementation of the Mission Critical Space System Personnel Reliability Program*	1	5
FS-MEMO-01 10-29-2004	*Audit of NASA's FY 2004 NASA Financial Statements*	4	8
FS-MEMO-02 10-29-2004	*Comments on Internal Control and Other Matters; Year Ended September 30, 2004*	11	7
FS-MEMO-04 10-29-2004	*Information Technology Findings and Recommendations; Financial Statement Audit IT Controls Assessment; Federal Fiscal Year Ended September 30, 2004*	3	59
IG-05-016 5-12-2005	*NASA's Information Technology Vulnerability Assessment Process*	1	3
IG-05-025 9-16-2005	*NASA's Performance Measure Data Under the Federal Information Security Management Act*	1	4
FS-MEMO-07 11-15-2005	*Audit of NASA's FY 2005 Financial Statements*	3	4
IG-MEMO-01 12-19-2005	*NASA Lacks Procedures to Define, Recognize, and Protect Meta-Data*	1	1
FS-MEMO-10 12-21-2005	*Information Technology Findings and Recommendations; Fiscal Year Ended September 30, 3005*	7	9
IG-06-007 3-17-2006	*NASA's Implementation of Patch Management Software Is Incomplete*	2	0
IG-06-010 5-9-2006	*NASA Should Improve Employee Awareness of Requirements for Identifying and Handling Sensitive But Unclassified Information (Redacted)*	1	0
IG-06-016 8-29-2006	*NASA's Implementation of the National Incident Management System*	4	2
IG-06-020 9-12-2006	*NASA Can Improve Its Mitigation of Risks Associated with International Agreements with Japan for Science Projects*	2	2
IG-06-017 9-14-2006	*NASA's Information Technology Capital Planning and Investment Control*	2	1
17	**Totals**	**52**	**189**

Table 2: Summary of Disallowed Costs and Funds to Be Put to Better Use (For the Year Ended September 30, 2007)

Category	Disallowed Costs		Funds To Be Put To Better Use	
	Number of Reports [1]	Dollars	Number of Reports [1]	Dollars
Reports pending final management action at the beginning of the reporting period	0	$0	0	$0
Reports on which management decisions were made during the reporting period	1	$30,000	1	$6,940,000
Total reports pending final action during the reporting period	1	$30,000	1	$6,940,000
Reports on which final action was taken during the reporting period	1	$30,000	1	$6,940,000
Audit reports pending final action at the end of the reporting period	0	$0	0	$0

[1] NASA's FY 2006 report included non-monetary reports in the number of disallowed costs and funds put to better use. To enhance reporting clarity, this year's report reflects only those OIG reports with disallowed costs and funds put to better use, but does not include reports with non-monetary findings.